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VOLUME 16

IN THE SUPERIOR COURT,

State of California, County of Sacramento.

OCTOBER SESSION, 1881.

HON. JACKSON TEMPLE, - - - - - PRESIDING JUDGE.

WINFIELD J. DAVIS, OFFICIAL REPORTER.

SAMUEL OSBOURNE AND WILLIAM M. CUTTER, REPORTERS.

The People of the State of California,

*us.*

The Gold Run Ditch and Mining Co.

COUNSEL:

*For Plaintiff,*

HON. A. L. HART, Attorney General, GEORGE CADWALADER, ISAAC S.

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*For Defendant,*

J. K. BYRNE, W. C. BELCHER, S. M. WILSON, W. T. WALLACE, A. B.

DIBBLE, A. P. CATLIN.



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Afternoon Session

Thursday Dec. 8<sup>th</sup> 1891

Testimony  
of the  
John R. Ferris.

Direct Examination.

Mr. Cadwalader. You are Captain of the steamer Apache? A. Yes, sir.

Q. Pilot?

A. Yes, sir. Captain.

Q. How long have you been on that boat?

A. It has been running about 18 months.

Q. It is of the same size as the model?

A. Yes, sir.

Q. What is the route she is running?

A. Between San Francisco and Sacramento.



Q. What boat were you on before  
her?

A. The Julia.

Q. The same trade?

A. Yes, sir.

Q. As Captain and Pilot?

A. Yes, sir.

Q. What boat were you on  
before?

A. I think it was the  
Sacramento. For a short time  
as Pilot

Q. The same trade?

A. The same trade.

Q. What boat before?

A. Well, I was on the Queen  
City in earlier days. - I was on  
different small boats.

Q. Have you been ~~off~~ flying  
on the river since 1866?

A. Yes, sir.

Q. And for how long?

A. Not entirely on this river,  
right here. But on the different  
rivers

Q. What year have you  
been off since 1866?

A. I commenced



steadily in 1871

Q. ~~Between~~ Between 1866 and 1871

A. Well, I was running up above here then

Q. Before 1866?

A. Well I ran before 1866, a part of the time down here

Q. When did you first commence navigating this river

A. In 1850.

Q. Between here and San Francisco

A. Between here and San Francisco

Q. How many years between the years '50 and 1866 did you run there?

A. Well, I cannot say exactly. There were about two years that I was on the Queen City steadily. And then we smaller boats at different times. Part of the time running through to Red Bluff

Q. When did you first



learn the river at all

A. I commenced here in 1850, and was on it from that time on

Q. State whether you noticed any changes in the channel of the river in the year 1866? And what they were. A. Yes sir Oh! decidedly, decidedly, A decided change.

Q. Well, what was the change?

A. Well, the billing up, the changing of the channel and the billing up of the river.

Q. What with?

A. Well, I suppose this debris matter.

Q. I mean what material?

A. Masses of sand and sediment and reddish clay.

Q. State what has occurred in the way of billing since 1866? And what effect it has had on navigation?



A. It has kept that channel filled up all the time, ever since.

Q With what?

A. A sort of floating substance that floated right along. A substance moving with the water.

Q State what was the condition of the navigation of the river prior to 1866, for the boats that were then running. A. It was good.

Q. What boats were then running on the river?

A. In 1866, I think the Capital and the Chrysopolis and the Yosemite were running.

Q Show many trips did they make and what was the average time for the trip up and down?

A. Daily. And about seven to eight hours going down; and about ten hours or from nine



to twelve hours coming up - according to the tide.

Q. How long did these large boats continue on the river?

A. I think - let me see -

Q. Take the Chrysopolis and the Goswite and the Capital?

A. I think that the Chrysopolis was built in the year —

Q. {Duty} I mean, how long did they continue navigating the river,

A. I think that the Chrysopolis ran on it about ten years?

Q. When did the Capital haul off?

A. I think about 1871,

Q. When did the Goswite haul off?

A. I think that the Goswite hauled off in 1872 - same time as the year 1872 —



Q. What are the largest sized boats that can now navigate the river in low water? At this time or within the last five years? What is the kind of boat that can navigate the river in low water, still?

A. Light draught of water boats, built for that purpose.

Q. What boats would you compare? What boats have you in your eye?

A. You mean, at the present time?

Q. Yes Sir.

A. Well, there are the stern wheel boats: flat bottom.

Q. Drawing how much?

A. Drawing about 3 feet when light.

Q. And how much when loaded?

A. Well about four feet and a half to five feet.



Q. And how much when light

A. I said, about three feet when light.

Q. Carrying what tonnage? A. About 250 tons to 300 tons, as much as 300 tons some times.

Q. What has been the falling in the river since 1866? In the bed of the river the average falling?

A. I should think it was from 12 to 15 feet

Q. You know what points on the river have you embraced in your average.

A. Well, from Sacramento to Rio Vista bar instance

Q. You know the boats called Apache and Modoc?

A. Yes sir.

Q. What do they draw? What are their dimensions? What do they draw light and what do they draw



loaded? How long are they and how wide?

A. They draw about 3 feet when light and  $4\frac{1}{2}$  to five feet when loaded.

Q. How much freight will they carry?

A. About 250 to 300 tons.

Q. What are the largest boats now plying between here and San Francisco? A. They are the largest.

Q. They are stern wheelers?

A. Yes, Sir.

Q. I will ask you: what if any is the billing between the banks of the same section of the river? Say between here and Rio Vista? The billing from side to side?

A. I would estimate the average billing is as between our boats 12 to 15 feet.

Q. Billing up the whole channel? A. In many



places it has filled out a hundred feet from the main bank on one side

Q. Coming up the stream now, where do you first meet bad water or low water? A. At Rio Vista

Q. How far up does that section extend? A. I judge, about 6 miles.

Q. Now coming up where is the next bad section?

A. Staycock shoals

Q. Staycock shoals the next bad section?

A. Well, when we get to Long Reach, it is very shoal

Q. Where is that?

A. That is just below Cambridge. Fifteen to 20 miles below

Q. Where is the next place?

A. The next place is the Staycock shoals

Q. Where is the next place?

A. It is shoal all the way up from there



Q So here? A. Yes Sir,  
At different points

Q What effect does shoal  
water have on the speed  
of the boat and its man-  
agement? A. A great deal  
I know much.

A. Slowing it down, I  
should judge 30 per cent.

Q. How much has it  
filled in, in some places  
in the river? In the river  
bed? Very, the holes?

A. 25 to 30 feet, I suppose.

Q. How does the plane  
on the river bed compare  
with it as it was originally  
before this filling in com-  
menced.

A. I don't exactly un-  
derstand you

The Current - As to even-  
ess I suppose?

Mr Cadwalader Yes Sir

A. The deep places  
being all filled up it  
has made the bed of  
the river more uniform



Q. How much more uniform? A. It makes it shallow most all the way. Where we would find bare shoal places for 8 or 10 feet, we would get over into 25 feet of water, maybe. Now these deep holes have all been filled up.

Q. What effect does this have upon the navigation of the boat? This shoal water?

A. It has a great effect. It slows the boat down at least 30 per cent.

Q. What effect does it have upon the management of the boat at the wheel?

A. When the boat comes in shoal water she will naturally run one way and then run the other.

Q. Have you at any time used steam in controlling your wheel?



steering? A. Yes Sir. Often, often,

Q. On what boats?

A. Well, on the Julia and on other boats

Q. That is you mean how working your wheel to navigate?

A. Yes Sir: we often did,

Q. Your pilot wheel?

A. Oh! The pilot wheel!

We only use steam in these new boats, the Apache and Modoc. They are the only ones that have it.

Q. Is that necessary at all? To use steam?

A. It makes it easier to handle. It is easier to handle by steam than it would be by hand.

Q. I will ask you what you have noticed in the way of the passage of sand down this river within the last ten years

A. You mean in the billings in down the banks.



Q. No Sir. The movement of it? A. Well, I have seen it just moving right along. You can see it almost, you may say, as it floats. You can see the bottom rolling right over and over.

Q. For how much of the river

A. For the whole width of the river

Q. For what length?

A. Four or five hundred yards.

Q. What effect does that have on navigation?

A. So much so, that some times we bring up on it all standing.

Q. What do you mean by that? A. The boat latches up on the ground, stopping.

Q. On the ground?

A. On these bars.

Q. Is that a stationary bar or a moving one?



A. A morning bar.

Q. Where will you bind it the next trip?

A. We will probably bind it half a mile below that.

Q. What depth of water do you bind that in?

A. Well, after the freshet. After the very high water you will bind that thing up to pretty near the time of low water.

Q. How high do you bind it?

A. You mean these lumps?

Q. Yes Sir? What is the highest stage you bind them at?

A. Oh! The highest water. When we have the highest water here we bind them in the river.

Q. What has been the condition of the water this year, as compared with any other of the previous ten years?



A. Well, it is better this last summer than it has been.

Q. Well, in what respects?

A. The channel is more uniform.

Q. How is the water? What has been the condition of the water this year?

A. The water has been comparatively clear, to what it has been been a number of years.

Q. To what extent has that been noticeable?

A. Well, I cannot not say. It has been very noticeable. You could see it.

Q. Has it extended through the whole of the season?

A. No Sir.

Q. What part. A. I think it was about within about 4 or 5 months.

Four months probably.

Q. What effect did that comparatively clear water



have upon the sand in the bed.

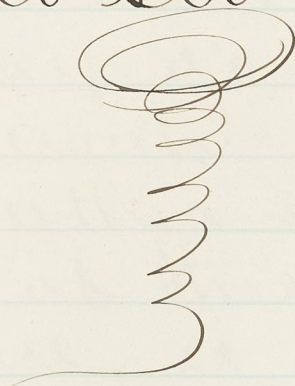
A. Well, it seemed to smooth of the channel's cutting away the lumps. It did not seem to have the same amount of lumps in the channel.

Q. In other words it gave a better navigation?

A. It would give a better navigation.

Q. Have you noticed that there is any of the previous 9 or 10 years?

A. No Sir





# Cross Examination of John R. Ferris

Mr Callin - Q. Is the application of steam power to steam vessels peculiar to the Sacramento River?  
Or is it used on other rivers and in ocean navigation?

A. Well no. I think that this that we have is something entirely new.

Q. Is it not used in any other vessels?

A. They do use a similar apparatus on steam vessels, other steam vessels. But not of this description.

Q. Well, it has the same effect. It is the use of steam power in the management of the vessel?  
Steam management of the wheel.

A. Yes Sir. They have used similar on other vessels.



Q. Don't they use it on the Columbia River, Oregon

A. I believe they do use it, the hydraulic

Q. I understand it is the same power,

A. No Sir. They use hydraulic,

Q. Is not that applied by steam? A. No Sir. It is hydraulic. It is by pressure of water

Q. Is not the water pressed upon the apparatus by steam power? A. No Sir. I think not. By air.

Q. By what power. A. By air

Q. How is the air pressed?

A. By a pump

Q. How is the pump moved or worked. A. By steam.

Q. Then steam is the motive power. A. Well, I suppose so.

Q. How does the clear water of last summer have the effect of smoothing the bottoms of the river or



clearing away those lumps which you have spoken of?

A. There was no sediment in it comparatively: compared to what there had been floating down.

Q. This was during the 4 months of the summer season, when the water was at its lowest point? When there was this clear water.

A. It was not at its lowest point when it commenced to settle.

Q. During this four months period, when you say the water was clear: was not that during the low water season?

A. Yes Sir.

Q. What months are they? A. The water gets lowest in September or October.

Q. In what months was the water comparatively



clear. A. In July I think.  
In June, July and August.

Q. And September?

A. And September.

Q. Now then during these months in former years were there moving bars frequent? Or these lumps? These rolling bodies?

A. Yes Sir.

Q. They moved bars and appear in the months of June July August and September?

A. All along from the time of the freshets up to low water.

Q. My question is this did these lumps or moving bars of which you have spoken, in former years, form during the months of June, July August and September?

A. They moved bars at the commencement of a freshet: at the commencement of high water. At



whatever time that Commenced we would have these bands.

Q. At what time, as a matter of fact would these bands form

A. Sometimes later<sup>and</sup> sometimes earlier

Q. You have been on this river a great deal? You ought to know? Don't you know when high water commences.

A. Yes Sir. It commences at a different date in different years. Last year it commenced in December. Sometimes it commences in November

Q. At what time does it usually commence?

A. Sometimes later<sup>and</sup> sometimes earlier. I have not kept the dates. Sometimes we have high water in November: sometimes not until January.

Q. Sometimes as early



as November and some times not until January.

A. Yes Sir

Q. How long do these things continue? Lasting in the winter and spring blood how long do they continue? As long as the river is high?

A. They keep up along until away into June. They keep up until after the snow freshets. When there is low water until fall; until the fall rains; the raising rains of the fall. They go down gradually as it gets low water.

Q. At what time have you observed these bars moving, so that on the next trip you saw it farther down? You say you would observe a bear, one of these bars on a trip down, and then on the next trip you would find the same bear



moving on a mile or a mile and a half below?  
 During what period of the year would that occur?

A. All the way from the freshets or the first rains in December until high water had ceased.

Q. Until the following June? A. Yes Sir.

Q. For how long.

A. Probably but six months.

Q. You say these bands bloated during that time.

A. Yes Sir, "cuttings" as we call them.

Q. That is, during the months of June, July August and September these moving bands were not formed.

A. Not after about July. You don't see much of them afterwards.

Q. Did you ever know one of these bands to form in the month of July?

A. Yes Sir, I have



seen them cutting in the month of July.

Q. Now I want to know if these morning bars occur in the month of July?

A. I could not say how many.

Q. Are you sure you ever knew one to move a half a mile or any distance in the month of July? A. Yes sir.

Q. Or a mile? A. I never said a mile.

Q. In what year did you see one of them move in July? A. I could not name the year.

Q. Where was the place?

A. There in Sacramento.

Q. Where? A. Well, for instance down here at Camotland. One was near or in the long Reach. What we call a cutting. When the river begins to cut and these bars to roll.

Q. What is that cutting?

A. That is what we describe it. When this sand



begin to roll. For instance  
 the mill come down a  
 trip and there will be  
 a smooth place in the  
 river in the long reach.  
 And on the trip up or a  
 few trips afterwards, you  
 begin to see a rolling over  
 and a boiling up, the same  
 as in the Mississippi River  
 where there is sediment

Q. You say the water boils  
 up. A. Yes Sir that is when  
 it is cutting.

Q. That is when the  
 river is getting down to  
 a low stage. A. It would  
 be so in July. Going down  
 but it would not be low  
 water, at a low stage,  
 until August, probably!

Q. That would be when  
 the water was approach-  
 ing this low stage?

A. Yes Sir

Q. And when the wa-  
 ter was cutting into  
 the side of the bars that



barred the side of the river  
Is that what you refer  
to. A. I don't know as  
there is a cutting into the  
side of the bars particular-  
ly.

Q. These moving bars  
that you speak of, are  
just as liable to start on  
their expedition down the  
river in the month of  
August, as they are at any  
other time? Is that your  
statement? A. No Sir  
When the freshet comes! That  
is the time when they come  
down. But you can't see  
them only in places

Q. You say that these  
break up or bail up?

A. Yes Sir. And as  
the water gets down lower  
you can see them some  
times more distinctly,  
working their way down  
the river.

Q. You mean that as the  
water falls, it cuts its chan-



nel where there has been a  
bar boomed.

Q. It don't cut any particular channel. Sometimes you can hardly get over it.

Q. What does one of these bars do? A. It just reals this sand over from one side to the other.

Q. Deepening the river?

A. No Sir. It shallows it.

Q. By changing the channel to or from the place where it cuts? Where the cutting is going on? If it cuts, must it not deepen the river at that place?

A. Where it cuts the channel away I suppose that it probably makes it deeper. After it has gone, I could not tell about that exactly. Sometimes you never notice it until you get to it.

Q. Now then you say



you think you have seen  
one of these bears in June  
and July. A. Yes Sir

Q. And you have testi-  
fied that you have seen  
one of these moving bear  
rolling down in the month  
of August.

A. No Sir. I never saw  
any cutting in the month  
of August.

Q. Do they go rapidly?

A. It don't travel very  
fast. But it will keep  
working its way down

Q. Then you didn't tes-  
tify that you saw one in  
the month of August?

A. No Sir.

Q. I understood you to say  
in your direct examination  
that these bears in the river would  
move down while you were  
absent during one trip?  
Would move down the  
river half a mile or a  
mile. A. I did not say  
a mile. I said, half a



mile. I have seen such a bar moving many times, but I could not tell how fast it moved. It might have moved half a mile during one trip. Or it might have been a quarter of a mile.

Q. You mean by that, that a certain bar was formed of a certain length and width and depth, when you went down the river? And on your trip back, or on your trip during a day or two afterwards you found that that particular bar had moved its position. A. Yes Sir.

Q. And you supposed that you saw the same formation in a bar which was further down the river.

A. Yes Sir. It would move its position. That is the cutting would be going on further down the river. But it would not stop there. It would keep moving down gradually all the time.



Q. Moving down how far?

A. Probably down to Collinsville. Right into the mouth of the bay.

Q. Did you ever see one of these moving bars which you have seen at Conestoga, moving past Collinsville?

A. I have seen the same sediment.

Q. How do you know?

A. That is I have seen the same bar working its way into the bay.

Q. You have seen this bar bloating along on the river?

A. No Sir.

Q. I thought you said it was a bloating bar?

A. It is a kind of bloating bar, right on the bottom. It rolls over and over I have watched it when we lay along side and have been grounded.

Q. How what you saw at these places where the river was cutting, called



again say whether the water was more thick with debris or sediment, than at places where there was no cutting? A Yes Sir

Q. Whenever this body of sand is or this body of debris, where there is this body of sand or of debris formed in the river, and where there is this cutting away by the action of the water, the water cuts into it and dissolves it, does it not? Leveling it down? And that material is floated off down the river indefinitely

A. It floats this bar along, and floats it on down: at first seemingly rolling it over and over, very much.

Q. Well, it rolls this debris down until it carries it out of the mouth of the river? A. Well it works away at it, clearing it away until it finally disappears some where

Q How does this appear to roll over on the bot-



form of the river? As you would roll a barrel in the street. A. The current and the action of the water works it down.

Q. It simply floats down the river in the ordinary way that water carries debris down the river? A. Yes Sir

Mr Cadwalader. Only there is this kind of a rolling motion.

Mr Callin. I want you to describe this rolling motion. We have heard talk of it here before. I want to see what is meant by this rolling motion? In point of fact, this rolling motion is nothing more than this: you see the water bailing up. A. Yes Sir

Q. And you see the sediment in it? A. I don't know as you see any sediment in it. But you get an top of these bars or bodies of water mixed with this sub-



stones mixed with the water  
and you bring up all  
standing. Maybe you will  
see it breaking up and  
rolling over all round you  
clear across the river from  
one side to the other

Q. But stirring the mud up  
in the river? A. You see it  
boiling.

Q. How do you know you  
strike this bar on your return?

A. The action of the water  
I think will show that suffi-  
ciently: where these bars are.  
So that probably when we  
came up the next trip we  
will find the same bar  
200 yards or maybe half  
a mile bar ther down. That  
is at extremely high water  
we might strike it that bar  
down. And it has frequent-  
ly happened that we have  
picked our way through  
it. We can see it sometimes  
in the water as we approach  
and we can pick our way



through these lumps

Q. In other words you see that this water is going along at a uniform current, floating some sand.

A. It goes along about as I told you.

Q. It will be highly colored. A. Yes Sir

Q. And then when you come to the place where this cutting is going on, you see the water contains some <sup>thicker</sup> sediment and you say that it is heaving up.

A. No Sir I don't know that it is any thicker. Certainly there is some sediment on the surface.

Q. If you never see any more sediment in the water than at any other place or point, why do you conclude that it is heaving any more sediment than at any other place

A. Because we bring up an it



Q. I understood you to say just now that you did not bring up on it. A. I have said repeatedly before that we bring up on these bars, provided we don't pick our way through them.

Q. you say you have seen the same thing on the Mississippi River? This leading? A. They have such things on the Mississippi River. I speak of this as something similar to what appeared in the Mississippi.

Q. you have navigated the Mississippi? A. Yes Sir.

Q. And observed the same thing there. A. I have seen these leadings that I speak of. I don't know the occasion of it. I don't know whether there is sediment there or not to the extent there is here. Of course, there must be a great deal of sediment in the water.



Q. again have navigated the Missouri River?

A. No Sir. I have been on the Missouri River, but not as a navigator.

Q. Have you observed the same occurrences there on the Missouri River, in

passing up and down as a passenger

A. No Sir. I never paid but very little attention to that matter there. I never was on the Missouri River but once. One trip as a passenger

Q. What amount of freight did these early boats carry? Among these early boats that ran on the river before the river began to fill up with sediment, there were steamers like the Wilson & Hunt and the Confidence? A. Yes Sir

Q. How much freight did they carry? What was their tonnage? A. I suppose they carried about 200 tons.



Q. About the same as the Apache and the Modoc?

A. I don't think that they carried as much as the Modoc or the Apache. The Weson & Hunt would not. The New World and the Senator would probably carry more than the Apache.

Q. How much more would the Senator and the New World carry.

A. I suppose they would carry 400 tons.

Q. You have been engaged in piloting on the river from 1850 up? A. Yes Sir

Q. On what boats?

A. Well, between 1850 and 1860 I was on the Enterprise I was Captain of the Enterprise. That ran from here to San Francisco until 1854. In 1855 I was on the Queen City as pilot that ran between here and San Francisco

Q. Now when did you



first notice shallowing in the river? I am not speaking of billing up? In the early days did you notice it? A. The first change I noticed in the River was above here. That was in 1834

Mr Cadwalader. Never mind what you noticed above here.

Mr Catlin. Well, I desire to know,

A. You don't want me to speak of what I noticed above here.

Mr. Catlin. I am examining you now Sir

Mr Cadwalader. I didn't ask him any thing about the river above here

Mr Catlin. You didn't ask him. But he stated that he had been a part of the time above and a part of the time below

Mr Cadwalader. I didn't ask him any thing about the river above.



Mr Catlin, I dont care whether you did or not. When did you first observe shallowing in the river? In the Sacramento River?

A. I think it was somewhere about 1860.

Q. Did'nt you notice any before 1860?

A. I could not tell. I never paid much attention to it then. I did'nt think any thing of it particularly.

Q. You did'nt pay much attention to it prior to 1860?

A. No Sir

Q. Where was this shallowing that you speak of, that you saw in 1860

A. In different points. I could not state exactly where. I did not pay much attention to it. It did not bother us much then, and I did not pay much attention to it.

Q. Were not shallows being formed in the bends



Of the river at different places, that were perceptible to the pilot even then, although the boat did not touch? he can tell when he is in shallow water though he does not touch the sand? - A. Yes.

Q. Was it not quite perceptible prior to 1860? those shallow places? A. I never noticed them.

Q. You first states that you noticed a number of places where it was shallow?

A. I never noticed any considerable number of places at the time and we never had any trouble then in regard to them.

Q. I am not asking you about any trouble? I ask you whether you noticed that bars were beginning to form at that time?

A. Before 1860?

I guess so. A. I can not say that I did.

Q. Can you tell what way the depth of the water in



in Sacramento river in 1854  
 opposite R. street, or opposite  
 L Street or opposite O street?  
 at this side from L. street to  
 the Yolo side?

A. No. I sounded it op-  
 posite L. street

Q Answer my question first?

A I never sounded there where  
 you speak of. I made judge  
 what its depth was there, how-  
 ever. Of course I knew how  
 deep it was. I had sounded it  
 opposite to L. street

Q State what you judged was the  
 depth at the point I have  
 mentioned in 1854 or 1855?

A Well, opposite L. street I  
 think there was 25 feet of  
 water.

Q Clear across to the Yolo  
 side?

A Yes sir

Q That is on L. street?

A L. street, I knew

Q How was it opposite R.  
 street?

A. I judged it was  
 the same?

Q You judged that from the



Q Last that you sounded it from the foot of L street and got 25 feet of water clear across the river?  
A Yes sir

Q In what year was that?

A. From 1850 to 1853

Q Did you remember what my question was? State whether you remember it?

A I think you asked me how deep the water was at the foot of R and O streets, from bank to bank.

Q What was it in 1854 or 1855?

A I can only tell you about the measurement I made from 1850 up to 1853. I don't know really about the year 1853. I could not say certain as to that year. Probably it was in 1852 that I measured.

Q What was your object in taking these soundings then?

A I had a little keel boat here then that I used to push about. But in crossing over, backwards and forwards, we had what we called a



plunger, and when we came  
not get along in the ordinary  
manner, we come back it with  
my pole; at least twenty five  
feet long.

Q Pushing or pulling across?

A Yes sir.

Q That is the way you sounded  
the river? with your pole?

A Yes sir.

Q In crossing it?

A Yes sir. In crossing it

Q Last year whether you could  
tell in any thing about the depth  
of the water in the Sacramento  
at O Street or on the Yolo  
side opposite, and from the Yolo  
side half way across? Say  
at any point from T. Street  
down to R. Street? in the year  
1854 or 1855? A I could not

Q Were there any places there  
where the water was not to ex-  
ceed 12 feet in depth?

A No sir.

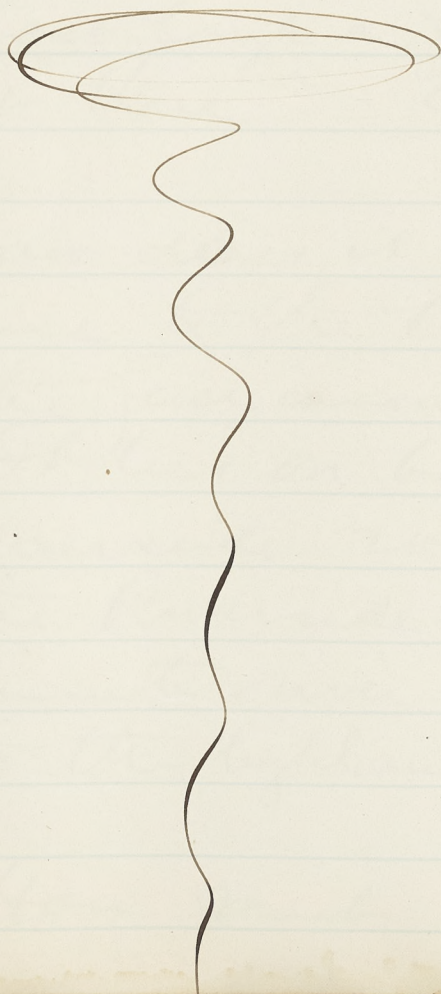
Q In 1854 was there no point  
on the Yolo side, between R and  
T streets, where the water



was as shallow as 12 feet?  
 A I don't think there was  
 2 Do you know?

A No sir, I don't know posi-  
 tively but I don't think there  
 was any place that was as  
 shallow as that.

2. If there was any place  
 of that kind, you would not  
 have been apt to find it in your  
 navigation? A We generally  
 find out pretty near the point  
 of all shallows and deep water.  
 We know where there is shallow  
 or deep water





Testimony  
 of  
 W. J. Mesick  
 Called for plaintiff sworn

Mr. Cadwalader Where do you  
 reside? a. In Sacramento  
 City.

Q What is your business now?  
 a I am farming at the  
 present time

Q At what place?

a Three miles below the City

Q How far by the river?

a About 5 miles

Q How large a farm have  
 you got there? a About 100  
 acres

Q How does it lie with  
 reference to the Riverside road  
 and the Sacramento River?

a It lies on both sides of  
 the Riverside road extending  
 from the Riverside road to the  
 Sacramento river on the west  
 end to the highlands on the  
 East

Q How much frontage have



you there? A I have some-  
thing over 3000 feet

Q That is on the bank of the  
river? A Yes sir

Q How long have you known  
that piece of land there inter-  
nately? A I have known  
it well since 1849. I bought  
it in 1875 I think. The place  
where I live

Q Does much land form on  
the Riverside road? What point  
are you at on the Riverside  
road? A I don't recollect  
exact distance. something over  
a quarter of a mile

Q What kind of land is it?  
A Bottom land

Q Belonging to what class?  
A First class bottom land.  
Estimated so.

Q What is the nature of the  
soil? A. Black loam

Q What changes have occurred  
affecting that land  
since you bought it in 1875?  
Changes coming out of or grow-  
ing from the Sacramento River?



Ask you what changes have taken place and what has produced: affecting this land?

A The land has become very much wetter and colder and less susceptible to a high state of cultivation.

Why is this so?

A Owing to the nearness of the water to the surface?

I Produced how?

A Occurred by the filling up of the bed of the river.

I The bed of the Sacramento River? A Yes.

I How much has the bed of the Sacramento River filled up in front of that place since you first knew it?

A More than 12 feet, 12 to 15 feet.

I How much of that has occurred within the last ten years?

A Most of it has occurred within the last 10 or 11 years. Since 1871 or 1872.

I What levees have you had



there in the last five years.

A In 1862 there was a levee built there that upon my place was at an average of five feet high I should think. In 1878 we added 3 feet to it and that has been added to to some extent since.

2 Well, what became of that levee or parts of it? But before we come to that I want to ask you this question: Take the land between your place and Sacramento City — that is the front lands — and how do they compare with yours? As the lands coming this way, until you get within about a half a mile of the graveyard, are all of about the same character. Then from the line of the Extension of 18th Street or in that vicinity — from the Riverside road to the Sacramento river — the lands are about of the same character. If you back to the East from the Riverside road, there



is more of a difference in  
the character of the lands.  
Some are about the same and  
some are not so good

I take the character of the  
land from your place down to  
the foot of the Riverside road.  
As to its general character?

A there is only one interve-  
ning farm between my farm  
and the end of the road and  
that is the Munger place.  
That is the same character of  
land

I will ask you whether  
all this land has been affected  
just about the same as yours  
has been

Mr. Cutler Let him state how  
it has been affected. It is  
not necessary to lead this  
witness a path

Mr. Cadevalader Weedy he has  
stated already

The witness The lands have  
generally been affected the same;  
the same on my farm as in  
other places coming this way.



There are portions of it that are affected very much more than others. Some of it escaped, as it were. Some of the lands are not affected. Apparently. Q What is the reason? What is the cause?

A Because they lie high. High ridges of land. Some of the lands have higher ridges or higher placement than others. There will be 10 or 20 acres that will lie higher than the land generally, and these lands have not suffered so much as the body of the land. The general body of the lands have suffered very much.

Q Do you know how that land has been cultivated up to, say, 1878? or since the time you first knew it?

A Yes sir. The lands that I speak of were almost exclusively devoted to the culture or to the cultivation of vegetables, what are termed sack vegetables, or garden vegetables.



and Alfalfa. Occasionally a farmer sowed some grain, but it was not usual. The general crop was sack vegetables; garden vegetables; and alfalfa.

Q. Prior to 1867 however this business carried on? was there any interference with it?

A. Not at all. Not at all.

Q. You speak now of interference from river canals?

Q. Lessen? from overflow of the water from the Sacramento or from the sinking of the water from the Sacramento?

A. Of course, there are places all along that are low. All bottom lands I ever knew have low places. What we term - Slough or Sags. That are always or often subject to be affected by high water. But the cultivated portion of the lands were not affected before about 1870 - from 1869 to 1870 - along there.

Q. You mentioned the kind of crops then grew there?



Did they grow earlier or late?

A Well, I can only answer your question directly by speaking of particular crops. Alfalfa, sowed in the Spring must be sowed early to be a successful crop. Up to this time of which I have spoken Alfalfa was grown down there on these lands; though it was often not put in early enough to have it grow as well as it should. Still they raised large crops there in some spots. At the present time it is a very different thing to put in a crop of alfalfa there in the Spring in sufficient time to have it grow in to full maturity on these lands. Indeed there is now but a small portion of these lands where there is any degree of certainty that a crop of alfalfa sown at the earliest possible time will be successful.

I have said it in regard to the crops of very ~~etables~~ raised



before 1870<sup>2</sup>. a. In answering that question I shall have to speak more particularly of my own farm. There's but one large vegetable garden at the present time upon all this land; the one at Juttenville. That occupies ground which is very much higher than the average of these lands which I have spoken of.

2 Was there much of that land down there that was devoted to hop raising?

Mr. Catlin I object to that question as leading. The witness was going on to describe that land when you interrupted him with your question.

Mr. Cadwalader I think he had got through with his answer. Mr. Catlin I don't think he did. Mr. Cadwalader Did you get through with your answer?

The witness No sir, I did not. I was not through with what I was going to say in reply to your question.

Mr. Cadwalader So on:



Q With the exception of that piece of land and a few other isolated pieces of from 5 to 10 acres, there is very little of the land that was formerly used as vegetable garden land that is susceptible now of being cultivated in garden.

Q Why not? A. On account of the shape of water. The wet. You can not put the seed in in proper season.

Q How much of that land has been used down there, or rather ~~than~~ much of the land between you and the City been used for raising hops?

A Probably broader. Perhaps a little more than that.

Q What became of your tower down there? A. I suppose you mean the one that we heightened in 1878. That was put up in 1862 and heightened in 1878.

Q Yes sir? A. Well we have had several breaks in them. Breaks have been repaired in them the present



Season.

Q Where did the break occur in reference to your place?

A Two of the breaks were upon my own place. One was about a half a mile or less than half a mile below.

Q State whether these breaks are repairable before the water goes down below the bank?

A No sir; they are not.

Q How far got to wait until the water goes down?

A Except the repairs are made with piling. We repaired them last year, on the Fern tract, after the water had gone down to the 24 foot mark. Then we repaired with piles and soaker.

Q Where the water gets on to your place, in what direction does it go? A It goes East until it strikes high land. And then it goes south until it strikes the tiles into the bottom.

Q Does it come up toward



Sacramento? A It goes down  
 2. Does none of it ever come  
 up toward Sacramento?

A It backs up toward Sacra-  
 mento.

2 Did it back up to Sacramento  
 in 1878 and 1868 and 1871?

A Yes sir.

2. What was the value of  
 that land down there in 1875?  
 Take it from Sacramento City  
 down to the foot of Revere  
 Road. That would be about  
 five miles? Say an average  
 depth —

Mr. Catlin (Intg) Let the  
 witnesses describe that land,  
 if they are going to value it.  
 I don't propose to have you  
 describe the particular ex-  
 tent or boundary of these lands  
 in such an inquiry

Mr. Cadwalader I am going to  
 say half a mile in depth

Mr. Catlin Let the witnesses  
 describe for himself

Mr. Cadwalader Well, he has.

The Witness I do not feel that



I deemed answer satisfactory  
 to myself as to the value of the  
 land there so early as 1875,  
 I deemed speak of its value in  
 1877

I take 1877? A. In 1877,  
 I became much better acquainted  
 with the values there. The  
 lands in my immediate vicin-  
 ity - taking my farm and  
 adjacent farms that were first  
 Class land were valued at from  
 \$200 to \$300 per acre. I sold land  
 off from my farm in 1877 for  
 \$200 an acre. I refused \$200  
 an acre for some of that land  
 and \$300 for other portions of  
 my own farm

2 Now what effect has this  
 high water in the Sacramento and  
 the escape of water from the  
 Sacramento had upon the  
 value of that land; say since  
 1877? A. Well I don't

know how it is exactly with  
 regard to other places there, but  
 I offered my place last year  
 for a long time for \$80 an acre,



and could not find a purchaser

2. I will ask you as to whether or not, you investigated as to how much of the value of that land will have to be expended in its reclamation?

Say since the 1<sup>st</sup> of March?

That is, what part of the value of that land in that section, from the foot of the Riverside road up to Sacramento City, or up to the cemetery at Sacramento would have to be expended in order to protect it from the waters of the Sacramento river?

A. In connection with the President of the levee district I caused a survey to be made by the City Engineer of Sacramento, to ascertain the expense of raising the present levee three feet. And widening it two feet on the top, — increasing the slopes. I took the assessment roll of 1878 and made a calculation and a precise an es-



-timate as possible, taking every  
acre of land in the district. I  
am checking now of levee dis-  
trict no 1, which extends from  
Sacramento City, from Y. street,  
to the Freeport Embankment.  
Taking every acre of that land  
and estimating it at more than  
its cash value - Estimating  
my own lands, for instance,  
if you please, at \$100 an acre -  
farm lands which I offered  
to sell at \$80 at the same time.  
It required a tax of \$21 on  
\$100 to build that levee

2 That covered on trace all the  
land owners from the Freeport  
Embankment to Sacramento City.  
After six, and back from the  
river, East, to what we call  
the red line. That is, to the line  
of the back water of 1878, the  
height of the back water of 1878  
through the breakers. Taking the  
land each way that way cov-  
ered by the water that came  
through the breakers in 1878.

2 Do you know a place



Called the Fern tract?

A Yes sir. That place is about a quarter of a mile below my farm.

I Tell: I want to know and I want to know about how many land owners there will be, starting from the end of that line which you mention up to the full line of Sacramento City?

A I can not tell you now.

I Well how are the farmers there generally in regard to cordth? Just give us an approximation?

A Let me see (reflecting). There are in the district about 20 farms of over 100 acres.

I Well, that is near enough.

A. A majority of the farms are less than 40 acres. A great many have less than 20 acres; pieces of land that are termed Cultivable Land.

I How far way this Fern tract below you?

A Half a mile below me,



on the river

Q Set that water back to  
Sacramento? A Yes sir.  
Q How far is that below  
Sacramento by the river?

A Somewhere between 5 and 6  
miles.

Q The river is very crooked  
A Yes sir, there are three large  
bends between.

Q How deep did these two breaks  
set the water back on the  
Y. Street levee at Sacramento?  
A The first break set the  
water way back. As to the  
break in 1878, I cannot say.  
The Hoodal break set the water  
back against the R Street levee,  
I believe. I think it was 10  
or 12 feet deep there. When  
you got up from the low places  
and East of the Cemetery I  
should think it was somewhere  
from 4 to 6 feet.

Q How much did you break  
and the Fern break, set back  
on the Y. Street levee?

A Both of these breaks occurred



Mr. Catlin (Intg) Sobyeck  
to this

The Witness Boat occurred with  
in a month of each year

2 In this year?

A In 1881 I think I was  
trying to check whether it  
was in 1881 or 1880. I think  
it was in February of this  
year

Mr. Catlin Can you say whether  
it was in December or January  
last

A I cant say. It was  
either at the close of last  
year or the beginning of this.  
Mr. Cadwalader Was it not  
in February? A I think  
so, I think it was February  
of this year

2 How high were the water  
set back by these breakers on  
the Y Street levee?

A From 2 to 10 feet. In  
some places it was 10 feet  
deep and in some places I don't  
think it was more than  
2 feet deep.



2. How long did that water from these breaks stand there without going off? and especially on the riverside road?

A Well, I am unable to answer that definitely. I think it was in the latter part of April, But just the time has faded out of my memory.

Although I made contracts for closing the breaks, I have forgotten just what time it was done.

2. How long did it stay over the Riverside road?

A To cover it, it stayed over the road but 2 or 3 or 4 days after we closed the Fern break. I let the contract for that but can not recollect the exact time.

2 What kind of material came in through the Loodal break? A sand, mostly coarse grey or white sand. The sand was entirely devoid of any material or substance in which vegetation comes grow



2 What became of that sand that was lodged along the Riverside road?

A great deal of it has been hauled off to fill in around different places. A good deal of it was hauled up to the City of fair mounts and the City cemetery. There have been teams taking off the sand that lodged from the Rockdale break from 1878 almost continually up to the present time and I guess there are teams hauling there up to the present day, filling in low places and vacant lands.

2 Did that break of 1878 affect the croplands?

A I don't think it affected the crop land much. That was too near the river to have any amount of sand deposited. The cropland, where the break occurred was right upon the bank of the river.

2 Didn't it run through Mrs. Severtsen's Hop field?

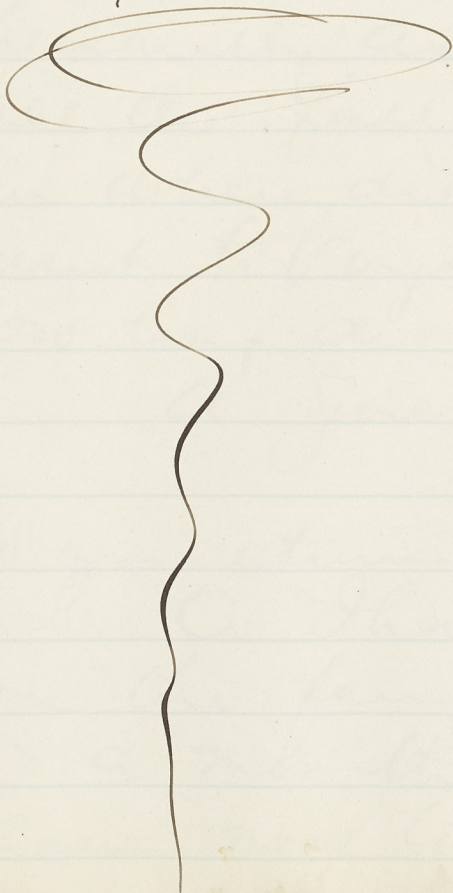


A I dont know  
 I Dammie Plinto?

A I dont know

I Merkeley's? A I dont  
 recollect what the effect of  
 that was.

2. What part of the City Cem-  
 etery was overflowed by these  
 breaks? A.  $\frac{2}{3}$  of the  
 whole Cemetery was under  
 water from the break of 1878.  
 I think that in the break  
 of last year or of the present  
 year, very little of the City  
 Cemetery of the occupied por-  
 tion of it, was under water





# Crop - Examination W. J. Meserle

Mr. Catlin: How long have you been personally engaged in farming on these lands?

A I bought this farm 1875 or 1876. I can't tell you exactly the date

Q I didn't ask you when you bought this farm? How long have you been personally engaged in farming?

A Oh well, I went upon this farm in the fall of 1877 to farm personally and I stayed there till the fall of 1878.

Q Then when did you go?

A I went to Virginia City

Q How long did you remain there? A Something over a year

Q Did you return to your farm then? A I have never lived on the farm since and not within a month from now. I have now taken up



my residence there at all -  
I have a sort of divided res-  
idence between Sacramento City  
and the farm. I do not  
know, that I reside there now.  
I reside there about half the  
time. I have done so during  
the last month.

I am intent to move down  
there and attend to my own  
farming operations myself.  
I intend to stay there un-  
til spring, and get the farm  
into as good a position as  
possible. I don't intend to  
live there.

How long were you there  
before you went to Virginia City?  
A year.

Were you there when the  
Rebellion occurred and the fol-  
lowing season you went to  
Virginia City? A year or  
remaining there two years?  
a year.

Engaged in what business  
there? A Practicing Law  
What is your Profession?



A Yes sir

I Prior to going down to live on this land in 1877 where did you reside for 4 or 5 years previous? A I had been living between Sacramento City and San Francisco. If you will allow me to explain so as to save questions about residence: I gave up business here as Searcher of Records in 1867. I did not go anywhere from that time to 1877. I was about one half the time in Sacramento and one half the time in San Francisco without any business.

I were you not for a number of years during that period also in the State of Nevada

A No sir.

I You did not go over there about that time? A No sir

I You did not engage in any farming operations then?

A No sir

I Now when you were over there? A No sir



I purchased and immediately  
made a deed of half of  
the property to Mr. Poorman  
and he took charge of it for  
the joint benefit of us from  
the time of the purchase

I have been disengaged in  
business in Sacramento, prior  
to the time you went out of  
business? As I went into  
business here in 1855 and  
stayed here continuously from  
1855 to 1867 I think



Q From 1855 to when?  
 A 1867, with the exception of two years that I lived in Virginia City perhaps 3 years that I was in Virginia City

Q You were three years in Virginia City? A I think perhaps three years, I think I was in Virginia City in 1864, 1865 - and 1866. Q Then again in 1877 and 1878? A Yes.

Q Making five years? A Five years I think I lived in Virginia City

Q Since you first knew this land so well - how long have you resided in Yuba County? A I have not resided in Yuba County since 1855. In 1857 now I remember I lived in Yuba County - in 1857 or 1858 I can't tell you just when

Q How long did you reside there? A I resided



there about a year and a half

Q Where was your residence between the years 1850 and 1855? A Generally at the Stock Farm and Marysville, between say 1850 and 1855 I think it is fair enough to say that between 1850 and 1855 I lived at the Stock Farm and Marysville and at Nicblaus

Q That is in Putter and Yukon Counties? A Yes

Q You staid there until 1857? And I came back here in 1855 and staid here I think two years.

That is my recollection now and then I moved on a farm and staid there about a year and a half and then returned again

Q At these periods did you have an intimate acquaintance with the agriculture that was going on on the lands which



you now own below here  
and those of your neighbors  
immediately adjoining?

Ans Sir. But in 1852 I  
became the Agent of Genl  
Butter and my business  
as Agent for General Butter  
made me —

Q. Now I am asking you  
as to the fact whether during  
these years you had an  
intimate knowledge of the  
agriculture that was going  
on on these lands if any  
was going on then?

A. I knew these lands.  
If you ask me between 1850  
and 1855, between that  
period I could not state  
a single solitary thing  
that was going on on those  
lands because I do not  
recollect although I had  
a knowledge of them and  
there was not a year but  
what I was over those  
lands, not this particular  
farm but this particular



section of the country. My business required me to have a particular knowledge of it.

Q Between what time?

A After 1852 For a great number of years I was Butcher's agent.

Q What was the character of your Agency? To rent and sell lands?

A Yes, to rent or sell them and the entire control of Butcher's business.

Q You had entire control of Butcher's business between what time? A I became his sole Agent in 1852 and continued so for a number of years. I cannot tell how long now. At least if he had any other Agent I never knew it.

Q How many leagues of land did Butcher own that you were agent of - 33 leagues?

A He did not claim 33 leagues then but his grant



was for 33 leagues

Q He did not claim 33 leagues? A He did not claim it then. He had sold some. Originally he had 33 leagues.

Q He claimed 33 leagues except what he sold off it? A Yes.

Q The northern boundary was the Tres Buttes or the Three Buttes? A Yes.

Q How far north are they from here? A I cannot tell you how many miles north of here they are. In a direct line 35 miles probably. I do not know, maybe more, maybe less.

Q You remember about the building of the first levee in the City here?

A Yes — I do not know though —

Q (cutt) I mean the main levee that protected the City for 8 or 10 years preceding the big flood of



1861-2? Ayes I recollect  
that

Q Was there a cross line  
down near Putterville as  
a portion of that levee  
system to protect this  
city from back water —  
a cross levee? A well  
there was a cross levee  
there built at a very  
early day

Q About how early?

A well, I was trying to  
place it in my mind  
exactly. I think in 1853  
or 1854

Q How long did that  
levee remain — how long  
was it maintained continuously?

A well that levee was  
a sheet

Q A sheet in what?

A In Putterville. It ran  
from the river to the high  
lands

Q Across this strip of land?  
Ayes.

Q That you have described?



Ayes.

Q At about what point was that levee with regard to your land that you have described, that you now own?

A It was about a mile north, on this side from the upper line of my farm.

Q You would be below that levee? A About a mile.

Q About a mile below that levee? Ayes.

Q And that levee would be about how far below this city? Say of Street; how far below of Street?

A It is about  $2\frac{1}{2}$  miles from Y Street.

Q  $2\frac{1}{2}$  miles below Y St?

Ayes I think that is about the distance.

Q What were the purposes of that levee? What were the objects of constructing that levee there. That levee I am speaking of, that cross levee, that runs from



the bank of the river to the high lands? Aron call it a levee. I have told you that it was a street, but I believe that the object was a double purpose; first to prevent the back water from coming up, and second for a street or first for a street and second to prevent the back water. You can put it either way if you please.

Q To prevent the back water from coming up and backing up to the City I suppose? Aron.

Q Then the lands there overflowed in those early days? Aron.

Q Backed up into the City? or were liable to back up and did back up into the City except so far as they were prevented from doing so by that cross levee? A I think that



all of those lands were sub-  
ject to overflow at all high  
stages of water in early  
days. All of them I think  
were subject to overflow.

Q What years do you speak  
of as being early days?  
You mean in the fifties?  
Ayes.

Q Do you know when  
that levee was carried away  
or broken by the back water  
so that this City, if it ever  
was —

Mr. Badwalades (intg)  
I object to that question

Q Now when was that  
levee broken by that back  
water or any water?

Answer I do not believe  
it ever was broken

Q This was on your terri-  
tory at the time, the terri-  
tory of which you were the  
Agent, over which you  
were keeping a close and  
careful supervision?

A I never said so. I never



Said that and you shall not put words in my mouth. I did not say "constant and close supervision" and you cannot treat me as a witness in that way.

Q I mean the supervision that you did have as Sutter's Agent? A Yes.

Q And in your direct testimony you said that you were well and intimately acquainted with this land ever since 1849? A Yes and I still say so.

Q Well if you were well and intimately acquainted with it — A (crying) What land do you mean?

Q The land that you described along the river side road

A I never have said that and you cannot find it in my testimony. You cannot put any words in my mouth.

Q I was merely referring to your direct examination



A I propose Sir to state exactly what is fair and you shall not put any unfair construction on my testimony Sir. I do not state anything upon the witness stand except what is fair and I do not propose to give any coloring to it on one side or the other. I propose to state facts and I have not stated any fact that was not a correct one and you shall not place any wrong construction on my testimony either.

Q What am I to infer from your statement on your direct examination, almost the very first statement you made here that you were well acquainted with this land that you have described and that you have been exceedingly well acquainted with it since 1849? A I have



never said "exceedingly well"  
or any such a thing and  
you cannot find the words  
"exceedingly well" in my  
testimony and I will not  
permit you to put that  
phrase upon it. I did not  
say that and you shall  
not put it in my mouth.

Q Well we will not dis-  
pute about mere trifles.

I supposed it to be a fact  
that there was a levee there  
but you say that it was a  
street? A Yes.

Q Front Street is a street  
is it not in this City?  
A Yes.

Q It is a levee also  
is it not? A Yes.

Q There was a cross street  
or levee running from the  
bank of the river to the  
high lands which you  
say bound this land  
on the Eastern side?

A Yes. It was built for  
the double purpose of a



sheet and to prevent the  
back water from coming up  
I suppose it was for that  
double purpose

Q That is exactly what I  
understood A I said  
I supposed it was for the  
double purpose

Q That levee was between  
this land that you are well  
acquainted with and the  
City? A What land do  
you mean that I am well  
acquainted with?

Q The that you have de-  
scribed. I will answer  
your question. The land  
that you described to Mr  
Cadwalader.

A You mean my farm?  
When I described to Mr  
Cadwalader the land be-  
ing between the end of  
the riverside road and  
Sacramento part of the  
land is on this side and  
part on the other and  
therefore this could not be



between Sacramento City  
and the land that I de-  
scribe because a portion  
of that land is on the  
other side of the street

Q The levee is between  
your farm and the City?

Answers .

Q It is about 2 miles  
below Y Street you say?

Answers

Q When was that levee  
broken if it ever was broken

A I am ready to answer  
the question that you started  
to ask me about this land  
which you pretend to be so  
well acquainted with

Q Why? Answers the  
question I asked you

A I said that I did not  
know that it was ever broken  
at all. I do not think it  
was ever broken at all  
I want to make my answer  
intelligible if I can. My  
recollection is that there  
were flood gates originally



put in, in this very place and that those flood gates were either taken out or washed out, but I do not recollect positively about that. Originally Mr. Easton this was a causeway or plankway and it was torn out and this levee or street was built in its place. and I think flood gates were put in and they were either taken out or washed out afterwards but I am not positive of that.

Q What was the purpose of those flood gates?

A I suppose they were to prevent the back water from coming up.

Q The levee would prevent the back water from coming out without flood gates would it not? What was the purpose of those flood gates? A The water must flow down and they wanted



the water to flow out, the flood gates in the levee were closed to prevent the water from flowing up but when the water lowered below they were opened to let the water above out, they were automatic as I understood. I think they put in flood gates, that is my recollection but I may be wrong about that.

Q Does that levee still remain there? A The levee is there, yes.

Q Is it practically used there for a levee? A It is used for a road.

Q It is not practically used for a levee? A No sir. It is used for a road and I will not say that it was built as a levee. It was built as a road I think and is used as a road.

Q Did it serve the purpose in those days of preventing



the back water from backing up into the City? A I do not know whether it did or not.

Q You were not well enough acquainted with that territory in those years to be able to answer that question? A I might have been well enough acquainted with the country at certain times in the year but I would not be very likely to be down there at a high stage of the water.

Q I am speaking of it in the Spring of the year when we have what are called Spring freshets when the water in the Sacramento river stands up to 18 or 20 feet ordinarily?

Are you speaking of it then?

Q Yes A I say that I cannot recollect what effect exactly — what the immediate effect of the water was at

4469



that time — 30 years ago.  
but I have stated it the  
best that I can recollect

© Now you state Mr  
Mesick that one at least  
of the reasons why this  
land has depreciated in  
value is that it is colder  
and wetter in consequence  
of the seepage water now  
were there any other reasons  
that entered into the de-  
preciation of the land  
besides that? Ayes,  
one other reason

Was it not the fact  
that that land for a number  
of years had enjoyed a  
sort of immunity from over-  
flow by reason of the fact  
that the levee from the City  
to Freeport and the bank  
of the river had preserved  
and protected these lands  
to a certain extent but that  
after those successive breaks  
the first in 1878 and  
the others more recently



— did not that fact have a great tendency to reduce the value of those lands?

Q It had its effect upon them of course

Q Was not that the main cause? And so, because the levees can be repaired.

Q They were repaired were they not? A Yes.

Q In 1878? A Yes; the Livedal break was repaired

Q And it had not been more than partly repaired before it went away again?

A That levee where it was repaired did not go away again

Q The same levee went away in other places?

A Exactly; undoubtedly

Q How many breaks are there now between the upper one below Y Street and the Fern Street altogether?

A There are four breaks in the levee that is there have been four.



Q What is the distance from the Povedal break to the Fern break by the river? A Well, I say the distance from the Fern break to Sacramento City I should think by the river was between five and six miles, and in that distance counting the Fern break one there were two breaks upon my farm and the Loddal break. I were there not two breaks, at Fern, two breaks occurring the same winter? A No sir.

Q Did it not break at Fern break and was it not repaired and the another flood came and was it not broken again?

A Yes sir, the end of the filling washed out.

Q Now is not that the main reason why these lands have been reduced in value? A No sir.

Q They are liable to be broken at any time when there is high water? A No sir, it is not

Q That has nothing to do with it? A I did not say



so I said a moment ago that it Entered largely into that Effect

Q I am putting the question to try to get some compensation?

A But you say it would have nothing to do with it. I do not say so. I say that it does. I say that it Entered into the thing and it Entered into this thing precisely for this reason.

Q One reason is that you have to spend 20 or 30 dollars an acre —

A. And when we have spent it we would then not have immunity from the water.

Q How much would it require to fix it up on that land to insure perfect immunity from a flood such as we had in 1861-2, could that be done?

A Well, with such a one as we had in 1861-2 — do you mean the same volume of water or the same height of water? The same amount of water which came down



in 1861-2 would make the water to the thirty foot mark now, I believe.

Q My question is a very plain one; I ask you whether you think that with any reasonable outlay a levee could be constructed there which would protect that land from a flood like that of 1861-2?

A Well, I asked you what you mean. Whether it shall be the height of the water of 1861-2 or the same water-line of 1864-2.

Q Just such a flood as 1862, just as high and just as long in the mountains?

A Yes sir, I know. But not the same volume of water; I want to answer the question understandingly and I want to answer it honestly.

Q You understand the question?

A I can not answer the question if I do not understand it.

Q { question repeated }

A. Do you mean the same height of water?



2 I mean just what that question means and nothing else at present?

A I do not know. If you say the same light of water I can tell you what I mean.

2 Well, I will frame the question to suit you?

A Not at all. But I do not know what you mean. I am not disposed to answer the question.

2 I am certain that I know what I mean?

A Well, I have no doubt you do, but I do not.

2. It seems to be quite intelligible — In 1861-2, you remember the winter very well do you not? A I was here sitting in the flood.

2 It was a very rainy winter was it not? A Lessin

2 It was commonly said that it rained forty days and forty nights — don't you remember of hearing that?

A I shall not answer that



under oath because I do not remember that

Q It was a rainy winter and there was very high water?

A Yes sir, no doubt about it

Q Well now, just such a winter, bringing the same amount of rain and the same amount of water, could you protect a levee with any reasonable cost against such a flood as that?

A No sir, with the bottom of the river in its present condition, we could not

Q That is an answer

A Well, I asket you if you wanted the same height of water.

Q You might have answered in the first place?

A I could not make it without making the explanation?

Q Now suppose the bottom of the river was 12 feet lower than it is now, how much difference would that make in such a flood as that?

A Well, I can not answer that. I am not capable of



Answering that question, but I should suppose now that it would not make any difference, excepting this; if you were to dig out the bottom of the river 12 feet or add 12 feet to the banks, I suppose the effect would be exactly the same, save if the velocity was the same.

2. That would depend on whether the river, carried all the water, would it not. But suppose a flood swept the whole country here from the high lands, which bound this territory that you have described on the east, and the high lands on the other side of the Golo basin on the west and make it a level sea, what effect would such flood have, what effect would the displacement of 12 feet in height and 200 feet in width in the bottom of the river have?

I am unable to answer the question



2. This land of yours is embraced in Swamp Land district number what?

A I do not know.

Q Don't you know the number?  
a levee district No. 1.

2 That district extends down to Freeport does it, to the old railroad Embankment at Freeport? A That is its Southern boundary

2 Is that railroad Embankment used as a part of the levee system in that district?

A Yes sir

2 Are there flood-gates in there? A Yes sir

2 Do you remember whether or not when the water backed up last year, this last flood in January or February 1880, or whenever it may have been, whether as a matter of fact they opened that gate in order to let the water out to relieve this City from the water that was in here

A. The flood gates and several hundred feet of the Embankment



Washed right away from the break - washed right out and there were no flood gates left; they washed right out into the tules

Q Was it not opened for the purpose of letting it wash?

A No sir, I think not. The flood gates and all washed out. That is what I always understood. I now they are away down in the tules

Q Well, how far at an early day if you remember, did the water at those early overflows back up here before the R street levee was constructed? How far did it back up into the City?

A. Well, I do not think it backed at all; I think in early days that we always obtained our flood just from the American River. My recollection is that the flood of 1852 came in from the American.

I am not speaking about that, but you say that in



Early days it overflowed there  
— how far would that back  
up here, the natural flood?

A Well, I think it ran  
over the bank. I do not  
think there was any backing  
up of the stream at all, then

Q. Through any portion of the  
land that you have described  
to Mr. Cadwalader, from the  
City down to Jatterville and  
from thence down, say, as far  
as Ferns place, where that  
break was, is there any tule  
lying in between the river and  
this ridge of high land? A. Yes

Q. The natural tule growth  
is there still is it not? A. Yes in

Q. Was not there a pretty  
extensive portion?

A. It what is termed the pocket  
is a large tract, that is just  
this side of the Freeport Em-  
bankment, extending from  
back of Ferns down for several  
miles, is a large extent of  
country, thousands of acres  
of tules



This levee district Not En-  
graves that tale distinct?

A Yes sir

2. And these ownerships of  
which you have spoken - You  
say there are some twenty per-  
sons speaking in round numbers?

A Yes sir

2. Owning farms of one  
hundred acres or thereabouts?

A Yes sir

2. That includes this tale?

A No sir I said -

2. I am asking you whether  
it does or does not?

A No sir, when I said 100 acres  
I did not include the tules,  
because if you considered it  
that way I should have made  
a foolish answer; I said  
of tillable land, cultivable  
land, and when I said that  
I did not mean the owners  
of tule lands at all, because  
there are many of those men  
that own large bodies of tule  
lands that I did not count  
at all.



2. Counting the tules then's  
farmer owned a layer still?

A. Yes sir, but there is a  
strip of land which is very  
narrow, and a man that  
owns 20 acres of culturable  
land, his land runs out into  
the tules so that when a man  
owns 100 acres of land, there  
may be 60 or 80 acres of it  
that run out into the tule

2 The culturable land is a  
narrow strip along the border  
of the river? A. Yes sir

2 How much land did you  
sell off at the rate of \$200  
per acre? A. 10 acres at  
200 an acre

2 How many acres of land is  
there lying between your land  
which is about - I forget  
the number of acres you gave -  
125 acres? A. 150 acres,  
about, I said in round numbers.  
It varies very little one way  
or the other

2 Count the proprietors from  
your place up to Y. street,



about how many acres are there altogether?

A I can not without figuring it up tell how many acres; there are a good many acres

2 are there any from this side of your place whose farm amount to any thing?

A I did not understand your question.

2 Take in your 100 acres and the other owners between your place and Y. Street, how much would the whole aggregate?

A I think there is about in the neighborhood of 2000 acres on it?

2 2000 acres of land lying between the ridge and the river?

A. Yes sir 2000 acres, included in levee district No 2 and then within the back land

2. I am not taking in the whole district No 1 clear to Deepport a No sir, but I mean in this way; the East line of levee district No 1 is the overflowed mark of 1878



Q I am not talking about the boundary of levee district No 1; I am asking you now to take your land, which lies on the river and runs across <sup>from</sup> the Riverside road and aggregates about 100 acres. A Yes sir

Q Now from your place up to Y. street how many acres are there? A How far east do you wish to go to ask that?

Q East of that ridge of land that bounds it on the east?

A West of that ridge of land?

Q Lying between that and the river? A Between the high land on the East of the river?

Q The high land from that fat-twiller ridge, the same high land as you spoke of.

A Well, there is about 2000 acres I should think. I may be hundreds of acres out of the way. I could give it if I suppose — I should think in the neighborhood of 2000 acres.

Q How much of the Riverside road was covered with sand?



A Well, I have not testified that any part of it was covered.

Q Then I misunderstood you

A Well, it was a fact that some of it was, but not deeply covered with sand

Q A small amount? A Yes

Q A slight rift of sand in one or two places? A Yes

Q Deposited on the Riverside road? A Yes - but I

have not said anything about any sand on the Riverside road

Q I probably misunderstood you; where is this deposit of sand that is being hauled in the City - On whose place is that? A. Charles

Q And how near Y. street or how near the Loddal tract?

A Charles place extends within about 600 feet of Y. street.

Q How large a space is covered with that sand there?

A In the Clark field?

Q Yes sir. A Well, 30 to 50 acres.

Q Was that sand that came



through the Loddal break?

A Yes sir

I proceed upon it by the current.

A Yes sir

I. The current was very swift I suppose when it ran through there?

A Yes sir

I. And how far did it deposit any of this material, sediment or shelling, that you observed?

A I presume this sediment —

I was there any sediment on your land?

A Yes sir

I Now the character of this sediment as distinguished from sand.

A I understand it very well

I Has not that got productive qualities?

A Yes sir

I State to what extent and how it may be utilized?

A A limited quantity of sediment I consider as very advantageous to land, but a heavy deposit of sediment, I am not a judge of how it should be treated. But I have no doubt that it can be — I have no doubt that sediment could be treated



in any place so as to be productive, but I do not know how to treat a large body of sediment, because I never saw it. But put upon it, as it is on my land, in some parts of my land coming through the break when the water became still and deposited sediment, what I call sediment was deposited, varying from an inch to 2 inches deep which was advantageous to the land.

2 But if the same kind of sediment had been deposited there to the extent of two feet in depth, you are not able to state whether that would be detrimental or not? you cannot know how to treat it you say? A. I say now, that my treatment of it from what I have seen done is to mix it with natural soil; but if it was barely sediment without any black soil, never having been treated, I would not



Know what to do, but I know  
that sediment can be housed upon  
a garden, and is productive

Q Now in regard to this Co  
are patch of high land, a-  
bout where was that situated  
in reference to the Roadal  
break? Do the currents sweep  
over that?

A It did through Mr Roadal  
and through Mr. Flint's

Q You said you would not say  
that that had been injured?

A Now, I said that I was  
not familiar with it enough  
to know whether it was injured  
or not, I have not been through  
there, it is off of the line —  
those high ranches are off of  
the lines of travel, and I have  
not been over there to see it

Q When you come into this  
City you usually come in on  
the Riverside road? A Yes

Q And your house is situated  
right on the Riverside road

A Yes sir

Q And your usual mode of



travel there was simply to go to your own place and back?

A That is so

Q Suppose I may say that you rarely ever travel over the lands of your neighbors?

A I go down occasionally on the Riverside road

Q Can't you tell me whether they have raised hops on that land since 1878, since the Hoodal Creek?

A I think they have, yes sir; I think they have been raising hops all the time. I know that they have on a large portion of it because I can see it from the road.

Q Do you know whether there was any deposit of sediment or sand on that land?

A I think there was a deposit of sand — I know there was a deposit of sand in the orchard, just close by the river because I used to see that as I went down the river

Q I am speaking of the hop lands, those usually devoted



to the raising of hops; do you know whether there was any sand or sediment deposited on that? A I know

there was some, to some extent, but whether it was a damaging extent or not, I do not know

I never as you go down the Riverside road, you mention Sutterville - we might as well understand what that is.

That is situated on what is now called the Riverside road

A Yes, a mile and a half from Y. Street above

I State how near to that point the Sacramento River crosses? A There is just room for the levee to intervene between the road and the river bank at Sutterville -

I At that point how far is it across to the level land? to this red land, about what width?

A That is the narrowest point the high land sweeps in to the west and the river makes a bend to the East. It is about



$\frac{3}{8}$  of a mile.

Q. Now this part of the City Cemetery you spoke of as being overflowed, that is on pretty high land, is it not, the main part of the Cemetery? A Yessir

Q That was not overflowed? A No sir

Q There is a part of it that is quite low land?

A Yessir, it slopes right down level with the Riverside road

Q That is an addition that has been made of late years?

A Yessir, on the other side it slopes down into a slope and goes into a very deep track of land

Q I will ask you whether the low part of the Cemetery has not been frequently overflowed in former years, before there was any levee — in the natural overflows?

A Yessir, I have seen that low land overflowed very early



Re-Direct Examination

W.S. Messick

Mr Cadwalader Do you know that that sand that was deposited on the Flint-Hop Ranch, stopped the growing of hops for two years?

Mr Catlin He says he does not know. I asked him thoroughly about it.

Mr Cadwalader I will ask you if the place where the flood gates were put in that road, leading from the river to the highlands, Sutterville, was not right in the middle of what we call the tule?

A. Right-in the tule channel

Q. The tule channel?

A. Yes sir

Q. How wide is the tule channel there? A. About 200 feet; or 300 feet there

Q. 200 or 300 feet there -

What is the character of the



ground between the point where the flood gates were put in, and the river?

A. For about 600 feet the tule channel is right on the extreme bank of the red land, of the highland that runs right close to the highland on the east.

2. How much lower is the tule channel there than the cultivatable highland?

A. 8 feet probably  
Mr Catlin The natural bank of the river slopes back?

A. The road itself was under water last winter three feet deep, when the land where the vegetable garden is, was out 2 feet, so I suppose there would be 7 or 8 feet difference.

Mr Cardvalader Mr Catlin asked you about your knowledge of that place down there, I will ask



you whether you have not had litigation concerning it, steadily with in the last fifteen years, a great part of the time.

Objected to as relevant

Q. Is that land a part of the Sutter Grant where you live? A. Yes sir

Q. I will ask you what you know about this road in Sutterville, extending from the road to the highlands - What is your knowledge of that?

A. That was originally - I was one of the proprietors of the town of Sutterville.

The town of Sutterville extends down to my farm - originally my farm was a part of the town of Sutterville - I was one of the proprietors of Sutterville, and we built a causeway, and afterwards we filled it up and made a road of it.



Q. That was the dividing line, that road?

A. Between the two tracts

Q. We spent years and years did we not, litigating over that question

Objected to as leading

Q. I will ask you whether there has been any time since you have been in California since the first one or two years that you have not been engaged in litigation?

Objected to as leading

Q. Did you ever cultivate any land on the Feather River? A. Yes sir

Objected to as irrelevant

Q. State whether you have always owned land in this vicinity.

Objected to as irrelevant and immaterial

Q. I will ask you this:- Mr. Catlin asked you about this cross levee, giving way on account of waters that



came from below, I will ask you whether that is so or not, or in which direction the waters came from that made it necessary to take out those gates?

A. Well, my recollection is not very distinct. It is hardly worth testifying, my recollection is that it washed out from waters that came from Burns' Slough, and came down there during the flood. That's my recollection of it, but it is so indistinct that I am not certain. I have not thought of the thing for a great many years.

Q. How high did the water of 1862 come over that tract of land of yours down there, do you recollect?

A. I was not on it during the high water there. I was here in Sacramento.



city during the whole time.  
I do not think I was down  
there in 1862

Q. How deep was the water  
on it in 1881?

A. In 1881, a portion of  
it was not under water  
Q.

Q. Well, a part of it?

A. A part of it; the water  
was over toward the tiles.

The water was six feet deep  
or 7 feet deep, and ran  
from that up to nothing;  
the orchard was not under  
water at all, along the road  
there

— 0 —



# Testimony of Captain Thomas Deveyer

Called for Plaintiff

Sworn

Mr. Hart What is your occupation? A I am interested in a Steamer.

Q. State whether or not you have ever navigated the Sacramento River between the mouth of the American River and the City of San Francisco? A I have  
Q. How long? A I have been navigating since 1868.

Q With what kind of Steamer?  
A I ran the first Steamer San Joaquin No. 1 and then I ran on the Steamer San Joaquin No. 2.  
Q. Have you had occasion during the time you have been navigating the river to determine whether or not the bed of the river has been filled up?

A I have

Q To what extent?

A. Well, it is filled up more



than people have any idea that it is

Q Well how much?

A Well, it is filled up from twelve to sixteen feet

Q Between what points?

A Between the mouth of the American River — I can put it at Collinsville

Q Where is Collinsville?

A At the mouth of the Sacramento River

Q You put it between 12 and 16 feet all the way?

A I think it will average that. Since what time has that filling been done?

A It has been done since 1868

Q What is the nature of the filling in the river?

A Well, it is sand and sediment

Q How does the filling extend so far as the sides, as the width of the river is concerned

A Well, it has extended a good deal

Q Clear across the river?



A Well, some places it has extended I think one half way across the river, some places not much - not quite so much, hardly any in some places.

Q What do I understand you to mean by that? A Well, in some places under the points where it forms eddys it has filled up. Some places over half way across the river, but then where there was a straight reach it has not filled up so much.

Q. What do you mean to say about it, that it is deeper at the points than it is in the channel? A. No, the points are filled up, there is no water on the points.

Q. Filled up entirely?

A. Filled up entirely, that is in low water.

Q How much has that been filled up in the channel.

A Well, I should think in some places the channel has



Filled up ten feet or more, well,  
 say from 8 to 20 feet

Q. From your Experience how the  
 filling up down there interfered  
 with navigation? A. Yes.

Q. To what extent

A. Well, to a very great extent

Q. In what respect?

A. Well, boats drawing great  
 depth of water that used to,  
 can not run on the river now  
 at all

Q. What is the difference be-  
 tween the boats <sup>formerly</sup> ~~now~~ running  
 on the river, and those that  
 run there now?

A. Well, the boats that  
 used to run on the river were  
 boats that drew a great  
 deal of water, and boats  
 running now are all light  
 draft boats

Q. What is the difference  
 in the draft of the water?

I say light draft - What is  
 the difference in the draft of  
 water of boats that formerly  
 used run on the river and



boats that can run on the river now? A. Well, I think there used Schooners come up here drawing from 6 to 9 feet of water, and now they can not come up here drawing 6 feet of water.

Q. How long has it been since ships drawing 9 feet of water could come up in the summer time? A. Well, that I can not really state.

Q. Do you know whether or not the filling the river has affected the tide? A. Yes sir.

Q. How far up? A. It has affected it to faramonto.

Q. It affected it to faramonto to? A. Yes sir.

Q. Well, how far up has it stopped the tide - how far down?

A. Well, there is a little tide I think at Freeport and there may be a little at Haycock's Shoals.

Q. How far is that below here? A. Haycock's Shoals is I think about ten miles



Q. How much tide was there there when you first knew the river? A. Oh! I should think there was 3 feet tide there at that place?

A. Yes sir

Q. How much is it there now?

A. Well, may be six or eight inches

Q. Is there any tide visible at the City of Sacramento now?

A. Not that I know of

Q. How long since you have noticed any tide in this City?

A. I noticed a tide there I think about 3 years ago, I noticed a few inches of tide and then in 1895, the bar at the bridge and below in the draw, and the bar down below R. street at that time used to have I should think about 6 or 8 inches of tide here in Sacramento. That was the last time I took much notice of the tide in Sacramento

Q. Do you know whether there



is any filling in Friesen Bay?

A I do

Q Where? A. Well, to the East of Seal Island

Q. Do what extent is the filling there? A. I think it has filled all of twenty feet

Q. With what kind of material? A. Well, I never examined it really to <sup>what</sup> testify the material is, but the best of my opinion it is a kind of sand and shikens

Q What is the color of it?

A It is a kind lightish and dark - between light and dark sand

Mr. Catlin I understood you to say that you had not seen it?

A. I have not examined the particular color of the sediment.

Mr. Hart. Have you seen it?

A I have seen it

Q. What is the color of it as you have seen it?

A Well, it is a kind of light - a kind of sand I should think



a kind of lightish color

## Cross Examination Of Capt. Thomas Dwyer

Mr. Cablin In what capacity have you been navigating the San Joaquin? As Captain or Pilot, or how?

A. I have not navigated the San Joaquin at all.

Q I thought you said the San Joaquin #1. A. I was there as pilot and I did act as Captain, but I was not registered as Captain of her, but I did act as Captain of her

Q Did you navigate the river any before 1868?

A What river do you mean?

Q The Sacramento River?

A I navigated the upper Sacramento, Sir

Q Well, Sacramento between here and San Francisco or Rio Vista?

A No sir



Q Not until 1868?

A No sir

Q. Then you know nothing about the shoaling before that period?

A. No sir

Q When you first came on it in 1868, did you notice shoals then?

A Where the shoals were?

Q On the Sacramento River between here and Rio Vista?

A There were some - not much.

Q Did you notice any sand bars?

A Well, no, there were no sand bars that interfered with the boat that I was running.

Q. What boat were you running then? A The San Joaquin.

Q. How much water did she draw? A. She drew about four feet of water.

Q You noticed no sand bars that interfered with her?

A No sir

Q. Did you notice any that would have interfered with the old steamers that used to run here between 1850 and 1860



A. Between 1850 and 1860?

2. Those vessels that drew nine feet of water?

A. Well, you mean when I first went running on the river?

2. Yes sir. A. Well, I expect the Hay cocks shoals and Hogs Back were getting bad at that time.

2. Now did I understand you to say it had filled up 20 feet in the channel, or 20 feet on the sides?

A. I mean between the sides and channel but I did not say 20 feet, that is I did not say the channel filled twenty feet.

Mr. Hart. He said from 12 to 16 feet? A. Yes sir.

Mr. Catlin I understood you in describing it when you were asked how much it had filled up in the channel, you said from 8 to 20 feet.

A. If I understand it, it was how much the river had filled since then.



Q How much it had filled in the Channel, as I understood you to say? A Well, in some places, in some deep places it has filled up twenty feet.

Q But you did not say so first? A Yes sir.

Q I understood you in response to a question, that the Channel had filled up from 8 to 20 feet. I understood you to say now that you have not said so.

A Well, not on an average it has not, but in some place it has filled 20 feet.

Q Where is the Channel filled in 20 feet? A Well, I think in different places.

Q What places? A Well, in some of these deep places.

Q Well, name some of these deep places where the Channel is filled up 20 feet?

A Well, I do not know as I could really name any of the particularly

Q You could not name any particular place?



A. No, I do not think that I comed

Q. When you speak of its having filled up from 12 to 16 feet you include those sand bars that lay up on the side of the river in the bends? A. Yes, I included the whole thing

Q. How did you ascertain it was filled up in Frisum Bay, off Seal Island, 20 feet?

A. Well, I used to anchor there where there was from 18 to 24 feet of water

Q. What years? A. Well, I anchored there from 1868 up all the time till we could not anchor there.

Q. When did you first find the shoal there? A. It has been shoaling by degrees all the time.

Q. Ever since 1868? A. Yes.

Q. That off Seal Island, which direction from it? A. East

Q. East from Seal Island?

A. Yes.

Q. About how near to the



Island? A Well, the Shoal was right near the island, East

Q. How many yards? what distance from the island is the bar, this shoal? A. Well, I think the shoal has got quite close to the island now

Q Well, how close?

A Well, I do not know, I have not been in there since it filled up at low water that it came out of the water, somewhat East of the island

Q Well, was a quarter mile, a half a mile, or a mile or one hundred yards or five hundred

A It is not a half a mile from the Island

Q. About a half a mile off of Seal Island to where that 20 feet of filling is?

A Yes sir

Q. And off on the East side?

A. Yes sir, on the East side

Q. What Kind of Examination



was it you made by which  
 you ascertained that it was  
 filled with a light colored sand?  
 A. Well, I only saw the bed,  
 where the tide leaves it and  
 when the tide goes off I see  
 that it looks of a light color.

Q. You have seen it when  
 the surface was above the  
 water?

A. Yes sir.

Q. Do you know where Mount  
 Diablo Creek is that enters in  
 to San Pablo Bay?

A. Mount Diablo Creek?  
 No, I don't know as I do

---



# Testimony

John H. Carroll,

Called for Plaintiff, Sworn  
Mr Cadwalader Were you a  
 member of the firm own-  
 ing a grist-flouring mill  
 in the American River  
 Cañon, about a mile  
 above Folsom? A. Yes sir.

Q. What was the size  
 of that mill? A. About  
 100 feet square

Q. How many run of  
 stones did it have in it

A. Nine

Q. French burr stone?

A. Yes sir

Q. How many stories  
 high was it? A. Five

Q. What was the capacity  
 of the mill for making  
 flour? A. There were 2  
 mills, you remember—  
 are you talking about  
 the first mill?

Q. I am talking about  
 this mill 100 feet square



A. I know, but you are talking about a mill that was there in 1861?

Q. Yes sir, about how many barrels per day?

A. About 400 barrels

Q. What was the cost of the mill? A. About \$75,000.

Q. How far was it built from the American River?

A. From what they call the channel of the American River it is about 400 or 500 feet

Q. How high was it built above the channel of the river - I mean above low water mark?

A. I suppose about 45 feet, I recollect.

Q. Was it supplied with water from the river?

A. Yes sir

Q. By means of what?

A. By means of a head race

Q. Cut through what?

A. Cut through rock



after building a dam, the head race was cut through the rocks, to take the water to the mill

Q. Where was the water discharged? A. It was discharged at right-angles with the head race from the mill to the river channel, which was on the south, through the bar

Q. What became of that mill? A. It was washed away in the flood of 1861-62

Q. How did it give way - what part went first?

A. Above the second floor

Q. What caused it to go away? A. Well sir, the water rose, and after the water rose very high the mill stood quite in the channel of the water, and the floating timbers that came down, floated on that side of the river, and there was a tree



said to be about 70 feet floated down, and came against the mill, and broke through, and went into the mill, on the north side of the mill, above the second floor, and went in about half way into the mill, and its motion to the right and left broke away the studs of the mill, the timbers of the mill, until the mill broke off above <sup>the</sup> that floor

Q. Where did it go?

A. It floated down over the bar, about nearly a half a mile, and it then went off the precipice, into deep water

Q. What became of the section of the mill containing the burr stones?

A. The floated right--

Q. Was that a still lower section? A. Yes sir that section of the mill that



set down on the forebay that floated

Q. Did it carry the mill stones with it? A. Yes sir

Q. How far down the stream? A. Well it floated down over this bar that there was below the mill, and it tipped over there, and tipped the stones out on this bar, which were found on the bar after the water went down

Q. Did you find them there? A. Yes sir

Q. That was the flood of what year? A. 1861-62.

Q. Have you any idea what the rise in the river was there? A. It was said to be 60 feet

Q. Well, could you see about where it was?

A. Yes sir, I judge it to be about 60 feet

Q. You saw the signs of it, did you? A. Yes sir  
I saw high water mark



Q. That mill never ran again, did it? A. No sir

Cross-Examination

John T. Carroll

Mr. Cattin Was not that mill burned up?

A. The one that was drowned was not burned up. The one that was rebuilt was at the place where the one was washed away - another mill was built nearly on that site.

Q. You rebuilt the mill, that is, you built a mill on the same site, only a little higher elevation?

A. Yes sir, a little further in shore - a little farther up on the land?

Q. So as to get out of reach of the high water?

A. Yes sir



Testimony  
 of  
B. H. Bugbey  
 Called for plff Sworn

Mr. Badwalades Q Where  
 have you lived for the  
 last 20 years? A Folsom  
 Sacramento County

Q Do you know where  
 Negro Bar is? A I do

Q How much have you  
 been in the habit of seeing  
 it since you have been there.

A Well I lived a number  
 of years from 1856 to  
 1869 in sight of Negro  
 Bar. I could look right  
 down on it.

Q That is a bar in front  
 of Folsom is it not?

A Yes sir

Q I will ask you if at  
 any time mining on that  
 bar has substantially  
 ceased what would be  
 the time? A Mining  
 has ceased with the exception



of Chinamen working with  
rockers pretty much for about  
ten years that is on the  
bar

Q State if any time on  
the other side of the River  
has been worked out what  
would be the time?

A. Big Gulch bar was worked  
out and pretty much exhausted  
fifteen or sixteen years ago

Q Well to what extent?

A. To the extent that there  
has been no mining of any  
consequence done there

Q What is the bar <sup>below</sup> ~~on~~ that  
on the other side?

A. Well what I call a  
flat place, maine flat but  
some call it a bar, it  
was a high place on the  
River, that was about a  
half a mile in length, it  
went from Big Gulch or  
Ashland down to the levee  
where the Rail Road passed  
over, I should think it  
was about a half a mile



in length,

Q If at any time that was worked out what time would that be?

A. Well the mining has ceased gradually, until there has been but very little done for the last eight years there, there has some little been done,

Q What kind of mining has been done in that small way in the last eight years?

A. There has been very little done, there has been very little mining done there for eight years last past

Q What do you mean by very little?

A. Small Well a small amount compared with what there used to be until I think there is no mining there now at all I have not seen any mining although frequently passing there of late -



Q Now what is the first bar below Negro bar

A. Negro bar now covers the whole of the flat, it is all called negro bar now and going down to the bend of the River Texas Hill, below on the other side is Mississippi bar.

Q Is Texas Hill on this side } A. It is on this side of the River, Mississippi bar is on the other side  
Q The Mississippi bar is on the other side of the River below what bar?

A. Below Negro bar, below Maine flat, there is a high bluff between Maine flat and Mississippi bar

Q When was that bar worked out =

Objected to as leading and assuming that it has been worked out =

Mr Cadwallader When if at any point of time mining ceased on that bar about



What was the time?

A. Well there is a portion of that, a portion of Territory called Mississippi bar formerly called Calf Town that has been mined since Mississippi bar has been exhausted, Mississippi bar was worked by rockers principally to start on that has been worked out and exhausted for years?

Q How many years?

A. With exception of Cradle washing by Chinamen I think 16 years.

Q. Now in regard to Calf Town? A. That has been mined later but I think there is no claim working there now. There might possibly be but no mining of any consequence has been done there for the last eight years to my knowledge.

Q Now is there any bar below that on the other side that has been mined



A Yes Sir there is Sacramento bar that has been mined but not to any extent

Q When did the mining Cease there ?

A Sacramento bar and Sailors bar.

Q When did they stop there

A. Well Sailors bar I do not think has been worked any for 18 years to speak of, There were Chinamen working down there about 18 years ago a good many of them,

Q How has it been since that time ?

A. I do not think there is any mining there now to amount to anything, there is not to my knowledge

Q On those bars what became of the Cobble stones that are dug up by the early miners as a general thing

A. Well they were generally left on the bars and the Coarse tailings left on the bars — the Cobble stones and



Coarse Tailings are left  
On the bars and where  
they mined with Rockers  
the small stones were thrown  
out in piles.

Q Well what do you say  
in regard to that stuff  
being there on the banks  
yet?

A. Well I have not noticed  
Sufficiently Close to be able  
to say that it all remains  
there but my impression  
is that the principal part  
remains there.

Q Still there?

A. Yes sir,

Q. What is it that Mr  
Catlin calls Texas Hill

A. In early days in 1849-  
1850 a flat that was 20  
or 50 or higher than the  
bed of the river that  
had been mined was  
called Texas Hill extending  
from the lower part of the  
town of Folsom down  
towards Willow Creek down



towards the mouth of  
Willow Creek

Q What has been the  
Character there at Texas  
Hill in the last five  
years? A. Well it has  
been pretty much mined  
out so that there has  
been but very little mining  
in the last five years  
there.

Q Where are the Cobble  
Stones and the heavy  
gravel that have been  
mined out?

A. Left on the ground so  
far as my judgement  
would indicate.

Q What is the next place  
below Texas Hill?

A. Well I do not know of  
any name for the bank  
of the River, I <sup>now</sup> have been  
on the bank of the river  
much below there, nor  
to examine to any extent  
I used to go over the  
ground but I do not



Know of any particular  
name for it

Q. What is the name of that  
bar at the mouth of the  
South Fork? A. Beals bar  
at the mouth of the South  
Fork of the American River

Q. It is got a 'negro to it  
A. Negro Hill up there  
opposite Mormon Island that  
is in the South Fork

Q. How far from the North  
Fork? A. I do not know  
I have heard the term  
applied clear down to the  
junction but I would not  
call it legitimately negro  
Hill as low down as that  
but negro Hill, a portion  
of the mines that they call  
Negro Hill now was not for-  
merly called Negro Hill, a  
portion of the washing was  
in the North Fork and  
a portion in the South Fork  
but there is no mining  
there for the last 15 or 16  
years to any extent on Negro



Hill and it was worked  
out.

Q What was the Character  
of the mining that was  
formerly there?

A. Well the mining there  
was with sluices generally,  
it was from a foot to 20  
or 25 feet as it went  
back from the brow of the  
hill I know in 1849 I  
prospected near the brow of  
the hill opposite Mormon  
Island and I found it  
a very few inches to the  
bed rock at the point where  
I prospected but as you run  
back from the front of the  
embankment became deep  
and I seen places there  
that I suppose were 25 feet  
deep.

Q There has been no mining  
on this place called Negro  
Hill for 15 or 16 years?

A. No sir it is pretty much  
deserted, not mined excepting  
by Chinamen?



Q I will ask you if you know anything about a bar that has lately formed in the American River in front of Folsom, about how long since it first made its appearance?

A. Well the head of the River is filled up in front of Folsom where the old Channel was and formed a bar there on the west bank of the River all along in front of the town.

Q Well how long is the bar and how wide?

A. Well the River occupies now but a very narrow space, that bar must extend out I should judge from the original bank where the Channel used to be - the deep water Channel of used to be on the further side, on the west side of the River there and that is now filled up to 10 or 12 perhaps 15 feet higher than



the water and the water flows over where Negro bar used to be?

Q How long has that bar been apparent there?

A That bar has been forming showing more and more for some time, It has made a greater showing since the high water of last season, after the high water came on. Q It has been principally made? A It was principally formed last winter.

Q How far below the bridge A. Well I should judge about 100 to 200 yards, perhaps not so far, it is only a rough estimate.

Q I will ask you whether you collected these stones - whether this is the box of stones that you sent down? A. I sent down a box of stones, and those look like them, to Gen Hunt and those cans of deposit there, I collected those white



Stones a part of them

Q Just look at them and see whether these are the stones that you sent down and if this is the box,

A. I recognize these stones as a part of them from Negro bar, some of them from a bank above the bridge below the prison, some of them from Horse Shoe bar

Q That is not what I ask you. I want that stricken out about Horse shoe bar.

Do I understand you that there is a large amount of deposit of this kind - state the character of materials that would appear to the Court if it should visit Negro bar, on the surface of that bar?

A The specimens that I have sent down are a fair exhibit of the lower end of Negro bar, the upper end of Negro bar is gray sand



Q. Have you got a sample of it? A. I did not send down a sample.

Q. Have you got a sample of that newly formed bar?

A. Yes sir, it is there in those boxes

Q. Just pick it out?

A. (The witness exhibits some samples in two boxes which are marked Ryberg's Negro Bar Sand)

Q. Where did that sand come from? A. There is twenty-five feet of water in a channel and on the south easterly side of that channel is where the sand can form, where these specimens came from

Q. What is the character of this sand appearing on the face of this newly formed bar?

A. The same as this that you have.

Q. The same as the form samples in the cans? A. Yes sir

Q. Something was said about some mining being done by



Choi. Lawson immediately  
above the bridge, which was called  
hydraulic mining.

Q. Choi. Lawson has a mine there.

Q. How is he working it?

A. He is working with sluices.  
I can not see how he is work-  
ing it because I do not go  
down to see him working. I  
only see the tail of the sluices  
coming down the bank.

Q. Do you know whether he  
is working it with a pipe or  
hose? A. I have not been  
down to where he is at work.  
I have not been down in the  
claim where he is at work for  
years.

Q. You have seen the sluices have  
you? A. Going up to the  
prison on the railroad track  
the sluices run underneath the  
railroad track. I have seen  
them sticking out onto the bank  
of the river. I never went  
down to examine them.

Q. How many years were you  
a miner in California?



A I worked about 10 months  
mining in California personally  
and have been interested  
in mining about 2 years  
besides

Q Have you been Sheriff of  
this County?

A I have been Sheriff of this  
County about 2 years and 5 months

Q Have you been Tax Col-  
lector?

A I was during that time

— " —

Press until tomorrow  
morning at 9.30.



In the Superior Court of the  
State of California in and for  
the County of Sacramento.

The People of the  
State of California

- vs -

The Gold Run Ditch  
and Mining Company

Friday.

Dec 9. 1881.

Morning }  
Session }

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Reported by  
Winfield J. Davis  
Official Reporter.



In the Superior Court  
of the State of California  
in and for the County of  
Sacramento

The People of the State of California vs.	} Morning Session Friday Dec. 9 <sup>th</sup> 1881
The Gold Run Ditch and Mining Company	

Testimony  
of  
B. N. Rydberg  
resumed

Mr. Cadevalader Since what  
period have what is called  
quartz gravel made its appear-  
ance in any considerable quan-  
tities on Negro Bar?

A. There was hardly any  
of it to be seen before 1862.  
Most of it has principally  
been deposited there since

2. In what quantities is it  
visible on the surface of the bar?



A. The bar is literally sowed  
 Arth it now on the surface.  
 I did not dig down in the  
 bar but it is scattered all over  
 the surface

2. Is that a fair specimen  
 of it (referring to gravel)?

A. Well, there is some that  
 is layered and it will run  
 from the coarsest sizes, some  
 from as big as your fist  
 down to the size of peas

Crop-Examination  
 of  
B. N. Rugby

Mr. Catlin Where was it  
 that you were engaged in mining  
 for ten months - at what  
 place? - a At Condemned  
 Bar on the North Fork, on  
 Little Oregon Bar about half  
 a mile above Beals on the  
 North Fork, at Big Gulch  
 Bar opposite Tolson and  
 on Neppa Bar?

2 How long were you



Engaged in mining on Negro Bar? A On Negro Bar I do not think that I worked there over six weeks.

Q In what year?

A The Spring of 1850, I had been working on the opposite side of the river previous to that

Q You say there were no quartz pebbles in the Earth that constitutes the formation of Negro Bar?

A I said there was none, not any considerable amount noticeable on the surface of the bar in those days, not after 1862

Q You say that there was no considerable amount noticeable on the surface?

A On the surface as there is now

Q Then you do say that there were no quartz pebbles in the Earth, that was excavated for mining purposes on Negro Bar in 1850?



A. No, I said that now there are quartz pebbles sowed on the surface

Q. What do you say to my question now; were there or were there not quartz pebbles in the earth when the miners looked for mining purposes on Negro Bar in 1850?

A. They are scarce - You can across some

Q. What mines were you interested in for a period of 2 years that you mentioned?

A. 18 months -

Q. Where were they situated?

A. A little rising of 18 months - I was going to answer the question by dividing it up - about 18 months of the two years I was engaged in mining - drifting, the mine ran in block 40 in the town of Polson forming on Negro Bar, we ran our tunnels out to the water

Q. On the other bench?

A. Yes sir, where the town



Plot is

Q. Where Tolson now is?

A. Yes sir on the lower flat of Tolson.

Q. A considerable part of the town is now situated there?

A. Yes sir, we run tunnels in through and excavate underneath, filling on cobble, with inside, and running our pay dirt out.

Q. You did not include that flat in what was called Negro Bar? A. No sir, that is above Negro Bar, it faces on Negro Bar.

Q. What is your occupation now? A. I am now introducing a patent right, I am living at Tolson however engaged in a small degree in fruit raising.

Q. Fruit raising and introducing a patent right?

A. Yes sir, introducing a refrigerator.

Q. Any other occupation?

A. No sir, I have been handling



other articles but that is  
my occupation now.

Q What has been your oc-  
cupation for the last several  
years? A I have been  
engaged in fruit raising in  
Holston, until within a year  
I have been engaged in Canassing  
for the refrigerator that I  
speak of and for books

Q Well, what has been your  
occupation say, for the last  
12 years? A Up to within  
four years I have been engaged  
— The previous 4½ years I  
was engaged in the vineyard  
business, in wine making  
and the vinicultural business

Q You were engaged a good  
many years in wine making,  
viticulture at a point where  
the Javastree mines were  
above Mormon Island on the  
South Fork? A Yes sir

Q. Biggley's vineyard?

A Yes sir

Q When were you on Missis-  
sippi River the last time?



A Well, it must have been  
7 or 8 years ago

I have you been there with-  
in 7 or 8 years? A It is a-  
bout 8 years I showed judge  
since I was there

What was the occasion  
of your visit there then?

A Well, I was to take trip  
down on the other side of  
the river - I used to go down  
to the old White Hollister  
place - Painter's place. I had  
business, with carried me  
down into that section of  
the country

I was it when White and  
Hollister were carrying on?

A No sir, they had left  
a number of years before that

I Well, I say what was  
your business in the neighborhood,  
if you ever were there 8 years  
ago what was your business  
on Mississippi River?

A I went down there to see  
Painter on business

Whom did you go to see on



Guseup<sup>r</sup>. a. One party  
 that used to live there by the  
 name of Howell - worked there  
 I well, did I understand  
 you on direct examination to say  
 that the way in which that  
 bar had been worked had been  
 by rocks. That was the prin-  
 cipal way Mississippi Bar  
 had been worked, by rocks<sup>r</sup>.

A Yes, the lower bar  
 principally, what was for-  
 merly called Mifflin's upper Bar.

I know about the high bar,  
 a The high bar was sluiced  
 out, worked with sluices.

I did those sluices conduct  
 the debris that passed through  
 directly into the American River.

A In some instances, some  
 onto the lower ground. There  
 were two benches there.

I did not they discharge  
 into the American River<sup>r</sup>.

A Well, not directly, some  
 of them did.

I have you ever seen any  
 tail piles from those sluices



Out in the river - Extending  
out into the river?

A I have seen them down  
to the bank but not extending  
out into the river.

Q. Then you never have seen  
any of them extend out into  
the river? A. Not Missis-  
sippi Bar. I do not think I  
have - I do not think I  
ever did.

Q. I speak of Mississippi  
Bar, of the whole bar - Are  
you speaking of what you call  
the low bar?

A I am of those bars that  
I saw mining done upon.

Q Do you know how much  
mining was done there when  
the North Fork Ditch first  
came in, and supplied that  
Bar with water?

A I know that there was  
a great deal of mining  
done there at that time.

Q Well, where did the shina,  
which those miners used as  
Chaze?

A. Some of them



discharged into the river and  
some of them discharged on to  
the Coeven bench.

Q Did not the greater part  
of them discharge directly into  
the river? A, I do not  
think that a greater part  
of it

Q Do you know?

A I am not positive

Q. You state there is no mining  
any longer on on Mamie Bar  
Mississippi Bar, and Slate  
Bar Hill - do you know the  
reason why there is no mining  
going on there now?

A On what Hill?

Q Mamie Bar and Mississippi  
Bar and these mines on the  
north-west side of the Ameri-  
can River that you have  
described - you said there  
was no mining there now.  
Do you know the reason  
why there is none?

A Well, at the present  
time there is no water there

Q. Where did the water



get there water from?

A. The water is supplied by the North Fork Ditch

Q Why is there no water from the North Fork Ditch

A There has not been any this season on account of the dam being carried away and that has been the condition considerable of the time for the last ten years

Q The dam of the North Fork was carried away last winter was it not, about a year ago? A Yes sir

Q Well now, when the North Fork Canal was introducing a supply of water, was not there a considerable amount of mining going on, on the bar on the North side of the River?

A On the Mississippi Bar?

Q On all the Bar on the North side of the river that are commanded by the water of the North Fork Canal

A Mississippi Bar and



and Maine I at one the only  
 can that I have know of  
 there being any mining there  
 recently. These have ceased  
 operation to a great extent,  
 nearly exhausted from appear-  
 ances from the indication of the  
 miners going away from them.

2 My question was, when  
 the North Fork Canal was  
 in condition to supply water  
 was not mining carried on  
 on all those bars on the  
 North side of the river which  
 are commanded by the water  
 of the North Fork Canal?

A It has not been carried  
 on for some time, though that  
 dam has been out a great  
 deal of the time - I say  
 the North Fork dam has  
 been out a great deal of the  
 time for a number of years  
 past.

I well, was it out in the  
 year 1880? A No.

2 In 1879? A. I think  
 those two years the dam



was in

I don't know if it is 1878?

A I am not positive as to that, there was a long period that there was no water on the other side, but I can not give the date in which the dam was rebuilt.

I was not that some 10 or 12 years ago when it was suspended? A I know it was out of water some time ago but I can not fix the date.

I was it not more than ten years ago? A I can not fix the date, I presume that it might have been 10 years ago.

I was it not during the several years or the 3 or 4 years immediately following the big flood of 1861, when that long period of time was that the North Fork did not supply water?

A Well, I think that dam had been carried away there



Three times and the periods  
intervening between that time  
that there was any chance  
to get water

Q Now what were the  
principal mines that  
were supplied by the  
North Fork Canal

A. all of the mines on  
the north west of the  
bank of the American  
River

Q Soten bar and beals  
bar ? A Yes sir

Q Slate bar hill do  
you know where that  
is A Yes sir

Q And maine bar and  
Mississippi bar - do

you know whether that  
dam has been put in  
again this last year  
for the purpose of supplying  
those mines with water

A Not of my own know-  
ledge I have been informed  
that it has

Q Do you know whether



the water has come in from  
that Canal during the  
past week - during this  
Current week ?

A. I was not aware of  
the fact

Q I was asking you  
whether you did not

A. I do not know

Q I will ask you if  
these quartz pebbles about  
the size of those that you  
produce here are not readily  
to be found all through  
that section of Country  
on the surface of the  
ground where it is  
gravelly, on the top of  
the hill and in other  
places ?

A. There are some places  
where you find them on  
the top of the hill but  
in regard to the bars  
on the River, I have  
been over the most of  
the bars and have never  
found them in any



quantity until since 1862  
 Q Are there not plenty  
 in the natural formation  
 on salt bar hill

A I have never examined  
 on salt bar hill

Q There is considerable  
 excavation on salt bar  
 hill } A. Yes sir Con-  
 siderable but I have never  
 examined it - I have  
 never been back on salt  
 bar hill since they com-  
 menced working there  
 except on the wagon  
 road

Q Is there not all through  
 the Red hills around  
 Folsom, in the formation  
 from the bed rock to the  
 top, is there not a plen-  
 tiful supply of those quartz  
 pebbles?

A. I have never examined  
 any of those excavations

Q Do you know where  
 Chris. Lawsons Claim is

A. I do.



Q Do you know about the extent of it and the depth of it ?

A By passing I have seen quite a territory there but I could not give the exact area

Q Can you not pick out of that Claim a plentiful amount of those quartz pebbles like those that you have there

A. I do not think you can

Q Why do you not think so ? A. Well I was going to answer the question by saying that I have not investigated it so that I am not qualified to give an opinion

Q In passing from the town of Tolson by that Short Rail Road that runs to the quarries you cross over the sluice ways, the outlet of Chris Lawsons Claim do you not ?



A Geo Sir

Q You see his tail pile running into the river do you not?

A I have seen the tailings there, yes sir.

Q Now then can not you pick from that tail pile at any time any quantity of those quartz pebbles? A I have never ~~meas~~ enough to the tailings to be able to ascertain. I have never noticed them sufficiently.

Q You do not know then?

A No sir.

Q In excavating under those claims that run along under the Corn of Holson, there, the flats, where they have drifted a great deal, you have been engaged or interested in claims at that place you say? A Yes sir.

Q Does not that material drifted out of there show a good deal of those quartz pebbles? A No sir, not as

far as my experience goes.

Q Does it show any?

A I do not think it does.



You may once in a while find a white stone but very seldom.

Q. Why do you say you do not think so and why do you say you may find them once in a while? A. Well, a

scattering one

I now then, you say that if the Court should go up there to Negro Bar and look at the bar, that that lot of quartz pebbles was ~~the~~ fair specimen of the appearance which that bar would present, is that your statement?

A. No sir, that is not my statement.

Q. That was the way I understood it?

A. The surface in Negro Bar toward the stream out from the bank is shown with stone like these on exhibition here

I what is the general appearance of Negro Bar standing on the edge of the Bar there and looking down upon it, what does it



General appearance present."

A. The appearance of a bar  
 Q. What kind of a bar?  
 a sand bar? A. Well sir,  
 a gravel and sand and shewn  
 with pebbles

Q. Would you see any of these  
 pebbles standing on the bank?"

A. With a white cast. I do  
 not know whether you would  
 notice it particularly, so as to  
 select them out, but you could  
 not help noticing the white  
 appearance that they give.  
 I suppose that I could explain  
 my meaning to you, so that  
 you could understand it bet-  
 ter if I would say, that this  
 is not the only kind of pebbles  
 there, by any means, but  
 they are in there with other  
 rock and in great quantities,  
 and different from what they  
 were prior to 1862

Q. Well, are not these pebbles  
 seen in with other rocks in  
 the original bank formation  
 upon both sides of the



American River, above the bridge?

A. I have never worked in any of the red bank formation nor never examined it and I can not say

2 You could not answer that question? A. No sir

2 What is the general character of the material that has been washed by the mine on these bars that you have mentioned in the neighborhood of Johnson as to whether it is particularly soft material or very hard, whether it is a light sandy material or whether it is a hard cement material

A. Well, the mining of early days down on the bar was generally very close and heavy and we stripped off the surface dirt and washed out the heavy dirt and threw the shippings back into the pit again.

2 That does not answer the question. I ask you what was the general character



Of the material which is mined, is it a light sandy material or is it a hard cemented material?

A Well, it varies, pretty heavy material as a general thing that is mined in the river and on the bars, some coarse sand and some of a clayey texture, a clayey character.

How was the mining on Texas Hill carried on, by sluices or rockers? A Well, in early days, some by long tows - in a ditch that you used to be interested in, that used to supply them with water.

2 Did they discharge into the river, those long tows?

A Yes

2 Well, how after the Natoma Canal water was brought in? A It was by sluicing?

2 Sluicing into the river?

A Yes sir.



How Extensive a mining tract in Texas Hill, I think you states it extended from the lower part of the town of Polson down to the mouth of Willow Creek. About what distance is that?

A What we formerly called Texas Hill did not extend up there, there was a flat between. But it is all called Texas Hill now.

What was called Texas Hill - what was it?

A Well, it extended down to the mouth of Willow Creek I suppose it must be a distance of a mile and a quarter from the lower end of Polson.

What depth back from the river? A well, probably all the way from 40 to 60 rods

What is the general appearance of that now, passing over it, a stream passing down the river, say, right on the



Mangui of the river on foot, asked what strike his attention? A. It is a bank of cobbles all the way, it looked as though there were a good chance to build a stone wall.

2. How many acres of what you call cobble stones are there there about? A. Well, I could not say at the present time. There is a great many acres of cobble stones, there have been a great many thousands moved away from there.

2 Well, a person passing down the banks of the river afoot, trooping over this cobble stone field which forms the debris or a portion of the debris of Tépé, still diggings, would he not?

A Well, I have not passed along there on the river and I could not tell from that standpoint. I have only passed along on the back part on the high ground - I should think he would have to run over



the cobbles, but the cobbles  
however are left on the bank,  
pretty much, up from the  
river, on the bench above the  
river, pretty much.

Q. Would not he have to  
pass these deep cuts that  
are cut down in the bed rock  
to let the sluice cut the  
river - ? A. They would  
firmly but I can not say  
how, now

## Re-direct Examination Of B. N. Rugby

Mr. Cadwalader. Mr. Catlin  
asked you whether the North  
Fork was to be brought out Ex-  
clusively for mining purposes?

A. I did not pretend to say  
to Mr. Catlin that the water  
of that ditch used to used Exclusively for  
mining purposes.

Mr. Catlin are not the waters of the North Fork  
Canal used somewhat for agricultural  
purposes? a Yes sir



# Testimony of George W. Scoville

Called for plaintiff

Sworn

Q. Mr. Cadwalader When do you reside? A. I reside  $3\frac{1}{2}$  miles East <sup>west</sup> of Davisville

Q. You live  $3\frac{1}{2}$  miles East of Davisville on the line of the railroad, between there and Sacramento? A. On the line of the California Pacific R. R.

Q. How long have you lived there? A. Since the Spring of 1858.

Q. What business have you been engaged in there?

A. Stock raising and farming

Q. Can you state the height of the water in that tule this last spring as compared with its height during the flood of 1862? A. It showed a

foot 18 inches higher in 1881 than any previous year.

Q. Than 1862? A. Yes sir.



I How much farther, if at all, west did the water in the tules extend west spring than in 1862? A On the south of me, it extended about  $\frac{3}{4}$  of a mile

Q North of you?

A On the north of your place about one mile

Q Did it cover any of that land that was not covered in 1862? A Yes sir

Q Did it cover any land that has been cultivated during the years previous to this?

A Yes sir

Q To what cause do you attribute there being higher water in the tules in 1881 than in 1862, or during any of the previous floods?

A I attribute the high water there to the amount of sand and sediment dug up East of the Sacramento River on the tules there, forcing the water further westward.

Q That is the sand deposit?



A The sand deposit

I Commencing on the margin of the Sacramento River and running west? A Yes sir

I What is the width of that bar from the English break, down, that is, how far does it extend out? A From the

English break southward or westward?

I No, from the Sacramento River westward south of the English break, and below the English break, or say below the toll road? A I should

think it was about — Of course I measured it with my eye, I did not measure it accurately — I think it is about two miles from just a little this side, East of the Canal.

I About two miles long?

A Wide, reaching westward from the river

I What is the comparative height of the country say for two miles west of you as compared with the high water



of 1881, how much corned you  
use in going 2 miles west from  
the high water of 1881, imme-  
diately north and south of you-  
how much country covered a  
flood of one or two feet Extra  
more than we had this year  
Cover? A Beyond the tide?

2 Beyond the line of 1881?

A I am unable to state  
Correctly.

2 Well, about?

A. It covered over many thou-  
sand acres probably.

2 What kind of land, what  
Class of land?

A The land is considered  
No. 1 cultivated land.

2. Land that is now culti-  
vated and inhabited?

A Yes sir

2 Land that has been culti-  
vated and inhabited since you  
knew it? A Yes sir



# Crop Examination of George H. Swingle

Mr. Caplin Does the railroad  
embankment have any effect  
upon making the flood waters  
higher at the north of that side  
of it? a yes sir

How much higher does it  
raise the water? How much  
higher on the north and the  
south of the road?

How much higher on the  
north - it would not make  
it any higher on the south?

A You ask, how much higher  
on the north and on the south,  
this last season, I think it  
was about 26 inches. Probably  
the main trestle shows that!

How many thousand acres  
would an extra rise of 26  
inches overflow in that sec-  
tion of the country west  
where you reside and west-  
City from that - you say  
a foot rise would overflow



Some thousand acres, how much would 26 inches?

A It would overflow a great deal

2 10000 acres, 5000, 3000, some general approximate estimate? A Probably not so much as that.

I will ask you whether the railroad Embankment since its construction has not had the effect to work a reclamation of a large portion of that land on the North side and other lands adjoining?

A To work a reclamation no sir, not if I understand your question

I Does it not work some sort of reclamation - has it not protected your lands considerably from the overflow of Putah Creek?

A Yes sir, it is to a certain extent, it has effected a reclamation. I answered you incorrectly, I said yes. I have now thought since



answering that question, that the same lands that overflowed by Patah Creek also overflowed by the river.

Q Did the same land on the north side of the railroad Embankment I have just spoken of, before the construction of the railroad Embankment overflow as much from the river as it did from Patah Creek?

A As much from the river as it did from Patah Creek, yes sir.

Q Then you say that the railroad Embankment has had no effect, in no measure reclaiming any portion of your lands on the north side from the effects of overflow

A From Patah Creek, I think not - from the overflow of Patah Creek.

Q From any water?

A I think not, sir.

Q Is it not a very noticeable feature there, that



in travelling from here to Davis-  
ville when you come to near  
where your lands are, and  
then from thence towards Davis-  
ville, that the lands on the  
South side of the railroad  
embankment are wet and  
swampy and covered with  
tule growth while on the  
North side it is free and  
fair looking arable land  
for a considerable distance?  
A. Not opposite the two cul-  
tivated tracts on either side  
of the railroad. If you  
come further East that is  
more noticeable, but oppo-  
site the two cultivable tracts  
that I cultivate, both sides  
of the railroad I think  
that on the South side is  
equal in light to that of  
the North side



Q I did not ask you about that, I ask you whether one was not wet and swampy and having various sorts of growths that come from the wet muck lands while on the other side it was free and clear of all that sort of growth and fair arable land to a considerable extent along the line of that railroad embankment

No leadwales I do not consider that this is cross examination

The Court Ask the question

A Not upon my land  
Mr. Butler Q Well upon any other land in your vicinity? A South of me it is wet and swampy the land of Montgomery Carey etc. South of me South of the railroad

Q How does it compare with that on the other



side

Mr. Cadwalader I object  
to the witness stating any  
thing that occurs in the  
delta of Pooter Creek from  
that cause alone

He would ask the question

a I said South of me  
the lands of Montgomery  
Cleary and probably others  
there —

Mr. Catlin says > I am  
speaking now of the lands  
bordering immediately upon  
the railroad and com-  
paring those on the South  
side with those on the  
North side as to this  
appearance

All well all the land  
bordering upon the South  
side of the railroad  
and upon the North side  
of the railroad upon my  
land; until you get away  
down nearly to the main  
rule they are about equal  
I should think as nearly



as I can come at it, they are very near equal on both sides

Q Perhaps you do not understand me. Is there not a tract of land over which the railroad <sup>has</sup> ~~has~~ <sup>and</sup> ~~and~~ <sup>embankment</sup> runs between here and Davisville after you have crossed the deep hole, in which upon the north side it is free from hole growth and is comparatively dry - I am speaking now of the summer season, and while on the opposite side of the bank it is wet and full of hole growth - is not there a considerable tract of that kind? A No sir

Q Is there not? A Not until you go further South and Eastward

Q Anywhere else between here and Davisville?

A Not upon my land

Q Upon the land of any



one else bordering there?

A Not upon Carey, Carey joins me and Wilcox on the Eastern South —

not until you go further South and Eastward a mile, the land is equal so far as my judgment goes upon both sides of the railroad until you strike the main hills this way, the main hill bed or range passing down

Q Is there ~~any~~ difference perceptible there? A I think not sir

Q At no place upon the line of the railroad between here and Davisville? A No sir I did not say that. I say until you struck the main hills, the main hills are equal on both sides, the land is equal either in hill or free from hill between my horse and here



Q Is there any place where it is not equal between here and Davisville on the line of the railroad? A West of me on Mr Wilger's land it is unequal

Q Now you say there was sand deposit on the West bank of the Sacramento river about 2 miles wide

A I think about that. I measured it with my eye, I think it is about that

Q When did you measure it with your eye?

A Passing, going and coming back and forth

Q By what road?

A By both roads, the toll road and what is known as the hile road through the hills

Q Can you see it from the railroad? A Not that far, the deposit, yes Sir.

Q Part of it is visible from the railroad, part



of this two mile width of this sand deposit is visible from the railroad?

Ayes sir, but not so wide. My observation is it that it was not so wide, bordering upon the line of the railroad as it is higher up opposite the English break that is to say

Q It is two miles in width there is it?

A Yes there yes sir. I think it is about that.

Q And how long up or down the river?

A I only know about  $3/4$  of a mile I should think north of the toll road; I think it is about that it keeps about the same width from half to three quarters of a mile

Q How much in length up and down the river?

A I could not answer the question. I only know about a mile and a half



or two miles — a mile and a half probably

Q You think about a mile and a half in length

A That is as far as my observation goes

Q And about two miles in width? A Yes sir

Q What depth? A Well it varies all the way keeping its width of 2 miles all the way from one foot to ten, places it is probably 10 feet

Q How much of it is 10 feet deep? A I could not answer that question, I have noticed it at other places

Q What is the proportion — what is the proportion of this sand drift that you speak of or sand deposit is 10 feet deep

A I should think it would average one third, probably more

Q Now how do you get at



what average did you ever see it? except crossing it on these two roads that you speak of?

Asphalt is all. That is my judgment. I have never measured it of course, I do not know anything about it.

Q And you think that the sand drift there is the cause of the hole basin raising 18 inches higher in ~~1872~~ 1862? A I think it has caused the water to go further west.

Q Well I ask you whether you think that the reason why the hole basin raised 18 inches higher than it did in 1862? A It threw the water that much further west in my judgment.

Q You think it caused the hole basin there north of the railroad to raise 18 inches higher than it



Did in 1862 do you?

What was your question?

Q You do not think that deposit of sand there is the reason why the tide basin raised 18 inches higher than in 1862?

A Yes sir I think that was the cause of the water going that much further West and raising it that 18 inches.

Q What is the only cause  
A That is the only reason, from the fact that I have not any data of what rain fell in the year 1862 and this year. If I have I have forgotten it. I do not know what the difference is.

Q Then one of the causes would depend on the amount of rain fall wouldn't it? A Yes sir that might be a cause.

Q You do not know the



amount of difference in the  
rain fall between 1862  
and 1881? a I said

that I did not know —

I know that the water  
stood very much higher

Q at what point?

A near the railroad where  
I measured it or where I  
generally took my measure-  
ments from

Q On your land? A on  
my land

Q at a point on your  
land? A yes sir

Q Do you know any-  
thing about it at other  
places? A nowhere else  
only on the north side of  
the railroad to my mind

— " —



Testimony  
 of  
J. L. Simmons  
 Called for plaintiff sworn

W<sup>or</sup>stare Q What is your occupation? A Physician and surgeon

Q How long have you been practising as a physician and surgeon? A 25 years.

Q In what school did you graduate? A Harvard University

Q Where have you been practising during your 25 years of practice?

A He in Sacramento City

Q When did you first come to Sacramento City?

A First came in 1850

Q At that time did you see the American river?

A Yes sir. I went in bathing in the American river frequently in the summer of 1850 frequently



Where? at what place?  
 a near its mouth

Q What was the condition  
 of the water at that time?

A The water was very clear  
 and the bottom was pebbly

Q Have you ever occupied  
 any official relation in  
 this place — position?

A I have been a member  
 of the City Board of Health  
 almost from its organization

Q Have you ever served  
 in any other official  
 capacity? A I have  
 been County Physician

Q Well on any Committees?

A In relation to the  
 Board of Health?

Q Yes sir A Yes sir  
 I have served frequently  
 on Committees on drainage  
 and sewage

Q Have you while serving  
 in that position and others  
 made any observations  
 in relation to the sewage  
 and drainage of the City?



A I have

Q State what it is?

A I have observed that the sewage or drainage is accomplished with a great deal more difficulty than formerly

Q Did you notice anything in relation to sewage water?

A The sewage water has raised

Q How has it raised?

A Abruptly or gradually?

A Gradually

Q Do you know what the raising of the sewage water has been the result of?

A I think the raising of the sewage water has introduced diseases by bringing to the surface many of the elements that were in the subsoil

Q Well the question was what is it that has resulted in the raising of the sewage water in the City - what has caused it? A Oh the



raising of the river bed  
 Aston have you observed  
 or in what respect have  
 you observed the effect upon  
 the sewage of the City?

I have observed that the  
 currents were slower in  
 consequence of the damming  
 of the out fall and that  
 in consequence of the slower  
 currents in the ditches  
 and drains the solid  
 matters of the sewage were  
 deposited along the borders  
 and in that way become  
 sources of disease

State if you can to  
 what extent disease has  
 been increased by the  
 causes that you have  
 mentioned? The principal  
 disease has been a change  
 in the type of fevers, the  
 fevers were formerly of an  
 intermitting character and  
 such as were easily con-  
 rolled by proper treatment,  
 a great deal of ague and



mild forms of periodic fever. Within ten or twelve years this type of fever has given place to a considerable degree to a form of fever known as typho malaria or continued fever which is sometimes fatal and in my judgment has been caused by the bad sewerage and insufficient drainage.

Obtain if you can whether or not there is any other cause contributing to this change in the nature of the fevers besides the sewerage and seepage.

I do not think of any other cause but that is considered sufficient.

Q Well in what respect does the increase of seepage affect disease? A The soil of this City is very porous, alluvial deposits mostly and that has allowed all the surface drainage to



get into the subsoil. Leakage water when increased brings those foul elements nearer to the surface to be acted upon by the sun and the heat and therefore become sources of disease.

Q When you speak of leakage do you include the height of the water in the ground the increased height of the water in the ground as the result of the raising of the water in the rivers or do you confine it simply to water lying upon the top of the ground?

A I understand leakage to be water in the ground as the result of increased water in the river.

Q State whether or not the deposit of debris in the vicinity of Sacramento has had any effect upon malarial diseases, if so what effect.

A Objected to as leading;



Ex

objection overruled; defendants except >

a I repeat what I said in the other answer

Q go on and repeat any thing that you want to

a the deposits of what are known to me as debris or what was said to be debris have blocked the outfall of our natural drainage canals and in that way have prevented a proper sewage or sufficient sewage

Q I was asking in relation to the deposit itself, of slickens, that is without reference to its effect upon the water and sewage? a In Sacramento City?

Q yes - not necessarily so - in this vicinity in the County where you are acquainted? a I have not noticed any other effect than what I have



already stated, the fevers have changed their type and have become more important in consequence of the damming of the outfalls by debris.

Q Have you noticed whether or not this effect upon disease has been confined to the City of Sacramento or whether it has extended farther?

A It has extended up and down the Sacramento River as far as my practice has extended.

Q When did you first notice that the diseases were changing? A I think about 12 years ago — for 10 to 12 years.

Q What was the change abrupt or gradual?

A A gradual one.

Q Has the change become complete or has it been continuously changing up to the present time? And is there ~~may once in a while~~ there is not a complete change. We



have malaria still

Q Well do you notice whether or not the change is increasing or decreasing during the last 4 or 5 years

A Objected to as leading; objection overruled; ~~plaintiff~~ defendants except.

Ex

Q I think the important fevers spoken of known as typho-malarial fevers the proportion is increasing

Q How long has it been increasing? A I think there has been a gradual change for the last 10 or 12 years

### Cross Examination of L. L. Simmons

Mr Belcher Q When did you say you came to Sacramento?

A In 1850

Q Had you had any practice before you came here?  
Ans Yes

Q Had you practised Pleasants?



Ans sir

Q Did you immediately enter into your practice immediately upon your coming? Ans sir

Q What business were you engaged in? A I was with a relative of mine in a drug store on J Street.

Q Was your study of medicine here or in the East?

A My study of medicine was in the East at Sturward University. I read medicine here

Q And graduated there?

A Yes sir

Q Have you ever had practice elsewhere? Ans sir

Q You have only practised in Sacramento and its vicinity?

A Yes sir

Q How early did you commence practice here?

A 1856

Q Were you here in 1850 51-52 and 1853? A I was here, yes sir

Q Since that time you



have been connected with the Board of Health of this City. When was that organized?

A I could not give you the date sir I think perhaps 77 or 18 years ago

Q You have spoken of one class of disease which you say has increased, the typho malarial fever? Answer

Q Do you know whether that has increased elsewhere than here - in the mountains for instance? A I do not, that is I have no personal knowledge

Q Have you knowledge from those who are in the same profession as yourself?

A I have no knowledge of that

Q As to the fact that the character of disease does materially change where the conditions in regard to sewage and water have not changed at all in the course of years as in New England



New York and Pennsylvania—  
in Pennsylvania there is min-  
ing however, but in regions  
where there is no mining,  
where the conditions as to  
sanitation remain the same,  
does the character of disease  
change? — You can answer  
that directly first if it is  
within your knowledge or  
reading. Ayes or no?

Q You can answer it so far  
and then if you have any  
explanation to make you  
can make it?      A Yes sir

Q Is it not true that the character of fevers has very largely changed in a district of country we will say like this and in the course of comparatively few years, where there has been no change in the sewage?

I cannot answer that  
from any personal knowledge

Q Well if it is within  
your reading and study

Can I make an explanation?



Q Answer the question first  
<The question is repeated>

A Yes Sir

Dr. Starr Now make your  
explanation. A The change  
in the type of disease in  
New England or Pennsylvania  
from the original malarial  
character, where there are  
old sewers and a large popu-  
lation, a great deal of animal  
life, they have introduced  
what are ordinarily known  
as typhoid fevers. The  
typho-malarial fever is  
a mixture of the two and is  
hardly known in the localities  
you are speaking of.

Q Of what State are you  
a native? A Massachusetts

Q Has there within your  
recollection or within the  
last 50 years in the  
Country away from the City  
been any malaria in  
Massachusetts within your  
time or within the last  
50 years? A There has



been some lately reported in the journals

Q Well in earlier times until quite lately, any malaria at all? A Yes in

Q Where? A Along Charles River and in Western Massachusetts. I think the report about the time of the Revolutionary War showed a good deal in Connecticut

Q Was not the Revolutionary War more than 50 years ago?

A Oh 50 years ago. I am not sure about the date but I know there was a pamphlet written by Dr Holmes upon malarial fever in New England

Q Is it not true that the malarial fever of New England followed the settlement from the first stirring up of the Earth, and that in a few years after it disappeared from New England, and so from New York; very largely from



Pennsylvania and Ohio and wherever else malarial fevers have been known, is not that the general truth in regard to it? A Yes sir

Q Now then let us come at that once more; has there been any malarial fever in the Country in New England or in Eastern New York within the last 50 years? A Yes sir

Q Much? A Well I do not know <sup>how</sup> much. I can refer to a number of medical journals within the past year where cases are reported

Q Occasional cases of malarial fever? A Oh quite epidemic in one point

Q Where? A It is in Plymouth County from the draining of a pond

Q That came from the same cause as the original did it? A From the draining of a pond and exposing



a large surface of new ground to the air and sun?

Ayes but ponds have been drained for 50 years, many times and not produced it

Q Is not that true with regard to malarial fever and the cause of it, that it comes as it came in New England and New York from the stirring up the virgin soil or where ponds had been drained, large ponds and with the surface exposed to the air and sun that malarial fevers have been consequent upon it?

Ayes sir

Q And is it not also true that after some years of settlement the country becoming comparatively old that those malarial fevers have disappeared and other fevers have come in to take their place, is not that true? A That is



the truth in regard to it.

Q And is it not true that typhus and typho malarial fever has followed the malarial fever or fever and ague — is it not true in New England that it followed it? And is

Q Have you had typhus fever there? A Typhus fever is another fever still

Q Well have you had typhus fever there? A Yes

Q And typhoid? A Yes is that is the prevailing fever the important fever. We are speaking now of typho malarial.

Q I understand. You say they never have had typho malarial there?

A That is a recent term comparatively in medicine

Q Well let the term alone — have they had the same class of fever there?

A I say not.

Q Have the fevers changed



in New England and New York - first I will ask you what fever did follow after the malarial fevers consequent upon the first settlement and clearing up of the Country? As the towns increased in population

Q (int 87) Keep out of the towns keep to the Country at present -

A We have the same causes in all old Countries in town or Country around old places

Q I am not asking you about causes I am asking you about a fact?

A What are known as typhoid fevers with an occasional outbreak of typhus

Q When you were a lad was it not typhus and not typhoid in New England - was there any typhoid fever there at all comparatively, was not typhoid when



you were a lad almost unknown in New England?  
 Ans sir

Q Was not the fever then most common in August and September typhus fever?  
 Ans not when I was a lad sir.

Q Do you know how it had been prior to the time when you were a lad?

A I know that they had several important epidemics of typhus fever. The typhus fever was in the locality in which I lived when I was a lad, commonly known as ship fever and was brought in vessels by immigrants and from that cause many suffered along the Coast of New England, a direct contagion.

Q Do you mean to say that typhus fever in the country and away from the Coast, away from all the influences of navigation



was not common?

A I say the prevailing type was typhoid and not typhus within my memory

Q Well is it not true that the character of fevers and within the character of what are called typhoid has changed very largely in districts there where there has been no change at all in the condition of the sewage — don't the typhoid fevers assume a different character, a different form in many respects from year to year?

A I think not. You might have a mild case, or a mild epidemic, but the general features are the same. It is an enteric fever. That is a disease of the intestines and is supposed to result from the absorption into the system of a germ. Therefore it is contagious



Q. When you speak of typhoid = malarial fever you must mean malarial fever that assumes a typhoid character?

A. The Characteristics of typhoid regular periodicity are absent, as in malarial fever. The intestines are involved. It is an Enteric fever. The intestines are involved either by haemorrhage or by ulceration.

Q. What is typhoid? What is characteristic of the typhoid fever, sir? A. In typhoid there is a particular part of the intestines involved known as Peyer's glands. They are always involved in that form of typhoid fever.

Q. Are they involved in this fever? A. No sir. I would make that distinction. I have seen men die here of haemorrhage, of typhoid, malarial fever, where the whole lining of the large bowel was pouring out blood. More like the congestive type of southern fever



In its beginning it has something of the character of ordinary malarial fever.

Q How is it what?

A. In regard to the feature of the rise and fall of temperature.

Q Is not the same thing true in regard to bilious fever in the beginning?

A Well, bilious fevers are almost all malarial fevers; what we call malarial fevers.

Q Do you mean to say that all the bilious fevers of New England are malarial?

A You may have a fever accompanying an inflammation of the liver. That would be called a liver complaint by itself.

Q What, in New England are called bilious fevers? I mean what in New England are called bilious fevers?

A. In medicine we know no bilious fever.

Q In the same thing time in regard to most fevers other



Chen melanai; that in the beginning there is a periodicity, like what you have spoken of here?

A. In typhoid fever proper: not so

Q. Answer the question with more generality. Repeat the question.

Reporter read  
The Witness I have I not answered it

Mr Belcher I don't think you have fully? You answered as to one particular fever? You said that of typhoid fever it was not true?

A In malarial fever the periodicity is evident. In typhoid, or continued fevers it is absent

Q Was there anything, or is there any thing about this fever of which you have spoken to indicate that it is of a malarial origin; other than with respect to its periodicity

A Yes.

Q What?



A The great vital depression.

Q Does not great vital depression accompany all fever?

A In malarial -

Q (Intg) Does it not accompany all fever?

The Witness Can I explain?

Mr. Fletcher I prefer your answer first? A. It does not; no sir.

Q In what fever is it absent?

A In the intermittent fever, when the fever day is not on. Then the patient will sometimes feel exhilarated instead of being depressed.

Q That is as to intermittent fever.

A That is a malarial fever, sir.

Q Is there any other fever that will answer to this description?

A I don't know of any other.

Q In all other fevers is the depression like what you mean here?

A Yes sir. I think so. I don't remember any other fever.

Q Except the intermittent and malarial?

A Yes sir.

Q In all other, depression



Follows as you say it does here  
in this class of fever?

A Yes sir

Q Is there a considerable class  
of fever, other than intermit-  
tent and malarial and typho-  
malarial? A We have  
malarial fevers of different forms.  
And then we had typhoid:  
commonly called continued fevers.  
And typhus fevers.

Q And those are the only ones?

A Those are the general divisions.  
Then there are sub-divisions.

Q Now is it not true, Doctor,  
that in every country about which  
you read, the class of diseases,  
or the classes of disease, and  
the character of disease or dis-  
eases, which prevail from time  
to time, are constantly changing?  
Types of diseases or types of  
fever? I mean, diseases generally?

A Such as fevers?

Q That would include fevers

A. You mean new diseases ar-  
riving and old ones departing?

Q And the character of those



Existing, Changing? becoming  
largely modified?

A. That is such a general question that I don't believe I could answer it very well.

I listen once more and see whether you can or not? Read it over Mr. Reporter.

Reporter Read

Mr. Belcher That is: is the type of diseases prevailing in any Section of the country a thing that is constant? or is it constantly changing? constantly and steadily and slowly, it may be?

A. And under that head of diseases, you would include small pox and all forms of Eruptions? Cholera and so forth.

Mr. Belcher For the present you can leave out epidemics.

A. I think malarial fevers give place to typhoid fevers in ordinary cases. I know of no other type of diseases that would change.

I You think there would be



No modification of any  
thing else except the fever<sup>2</sup>.

A That is my judgment

Q Now you have spoken of  
Siphage here, or water in the  
soil, the level of it, having be-  
come higher than it was when  
you first were acquainted here.  
Have you not? A Yes sir

Q And what effect did you  
say that produced? what  
did you say about Cess-pools?

A This city is filled with  
Cess-pools and vaults, which  
in consequence of the alluvial  
nature of the soil, must have  
permeated the general structure  
their contents.

Q And would not have done  
so, but would not have done  
so if the level had remained the  
same? do you say that?

A You mean to ask me whether  
this vault or privy matter  
would have permeated the soil?

Mr Belcher Yes sir? A Yes sir

Q Let me understand you:  
would this vault and privy



matter, would it not have permeated the soil, if the level had remained the same?

A. Yes sir. But it would have remained so deep that the influences of heat and moisture would not have acted upon it, the surface heat and moisture.

Q. Is it not true that in 1849 and 1850, previous to and up to this time, the floods of the winter were high enough to overflow the City? the entire city? in extreme floods? the whole city at its original grade? A. You ask me if the floods were sufficient to overflow the old grade?

Q. Yes sir. A. With a few exceptions. Some were not Q. And filled the cess-pools to the surface?

A. You mean: would they bring the contents of the cess-pools to the surface?

Q. Yes sir? A. That would depend on the density of the



Contents, as a matter of course.  
Some of it would come up.

Q Privies would become very  
largely moistened? would they  
not? A Yes sir

Q And the material brought  
to the surface? A Yes sir

Q Would that permeate the  
soil? A That would be  
according to the way it was  
brought

Q Would not all of it perme-  
ate the soil? A A great  
deal of it, would come up.  
Not all of it.

Q Would it permeate the soil?

A Most of the vaults being  
without closed walls —

Q (Indig) Would the material  
permeate the soil then if brought  
to the surface? When the water  
was flooded over the surface  
of the vaults? The contents  
would go through the soil? how  
is that? These were filled from  
winter to winter, every one of  
them? A Yes sir

Q Then when so filled, did



the material there go through  
and permeate the soil, then?

A During a flood —

Q (Intg) Can't you answer  
a question directly Doctor  
Mr. Stark. He was answering.  
I submit that counsel has  
no right to control the language  
of the witness. He has a  
right to have the witness an-  
swer his question, but he is  
not bound to use any one  
else's language. I think he has  
no right to interrupt this  
witness now. The doctor  
said: "During a flood"; and  
he was going on to answer  
Mr. Belcher. Read the question.

Reporter Read

Mr. Belcher That is in these  
early years of 1849 and 1850?  
From 1850 to 1860?

A. During those early years,  
there were very few years, we  
made use of other places

Q You used surface ground?

A Yes sir

Q Up to 1860?



A No sir The period at which you stated; during that period

Q The period I spoke of was up to 1860? A Oh well (reflecting) I think that from about 1855 to 1860, and afterwards, the vault system obtained

Q Do you mean to say that up to 1860 the people of this City were so uncleanly as not to have any vaults at all? A No sir. I stated the contrary. From 1855 the vault system obtained

Q And you say that up to 1855 they used the surface? A Largely yes, sir

Q And from 1855 they used vaults? A Yes sir

Q Now when did they begin to have vaults?

A I say from about 1855

Q Then after these vaults were built they were filled nearly or quite full almost



every winter? With water coming from some source

that depended upon the height of the sewage water at that time. I have seen them so low down that I could not observe the contents. And in other cases and in lower parts of the town they would be brought up near the surface

Q The contents of the vaults?  
A Yes Sir

Q You mean to say then that generally prior to 1860 there was no sewage in one part of the town and was sewage in another part? A Unless it was in a flood season there were certain parts of the town that at that early time were not covered. So as to be clear; where I lived on J. Street, it was barely covered. I remember that part very well

Q When there was no flood to



run over the surface were these vaults filled with water in the winter season or were they not?

A According to the height of the sewage, the contents would be brought up to the surface or not

Q Were the contents up to the surface or were they not? A There was sewage at that time of course

Q Siphoning through so that it would be up even with the level of the water in the river? Was that so or not?

A I could not tell you that

Q I ask you whether it was practically so?

A I think the sewage was always below the level of the water in the river

Q Could you form any idea of the difference between the level of the sewage water in the City and the level of the water along the banks of the river?



As compared with the water  
in either of the two rivers?

Only in a general way.  
I never measured the differ-  
ence. I have observed in  
the vaults near where I  
have been living so many  
years a great rise of the  
seepage water! amounting to  
several feet.

Q If the river went down  
would the seepage water  
still continue? That is to  
say would the water which  
had gathered in the cess  
pools and privy vaults  
still continue at its height?

A It would fall as the  
river fell.

Q And when the river  
became at its lowest stage,  
this seeping water was at  
its lowest stage? Ayer is

Q For how long a time would  
they remain full or practically  
so? That is, to the height  
of the water that came in the  
highest flood?



Q. That would depend on the level of the river. When there was little water in the canals, there would be little water in the river. Comparatively speaking, I would think seepage water remain here for several months?

A. That would depend on the season? you mean a flooded season?

Q. When these canals were filled, would they remain so for several months?

A. Only during what we know as flood winters. When the river was high.

Q. I will ask you; in other winter there was no wet in them? no water?

A. When there was no water in the river, no flood water, there would be no seepage. Not to any extent. The amount of water in the canals would depend on the seepage.

Q. I would like to enquire what you mean by seepage?

A. The idea of seepage is, a body of water within the soil



depending upon the stage of the river, caused by the proximity of the river.

Q That is: water percolating through soil <sup>from</sup> ~~into~~ the river into the City? A Yes sir.

Q Through the soil, back through the soil? A Yes sir.

Q And back how far?

A I have no idea; other than in the City itself.

Q Percolating through the soil of the entire City?

A There are some localities where it cannot percolate through <sup>any</sup> ~~the~~ Ridges. The old Kitter's Fort region.

Q And your idea is that all the water which fills the Cess-pools and privy vaults, seeps out and percolates out through the soil from the river?

Is that, or is it something else? A My idea is: that

all the fluid contents of the privy vaults, the open cess-pools, that were built with open brick work, or any in the



formed, — that these fluid contents are absorbed and taken up by the alluvial soil.

Q Is that an answer to the question that I asked you.

A I think so

Mr Deleber Read the question,

Mr Reporter

The Reporter read

Witness I am quite uncertain as to you when you speak of percolating out through the soil from the river?

Q Is what you mean by seepage, a percolation of water from the river through the soil of the city? or is seepage something else than that?

A Seepage may result from surface water being taken up by the cess-pools, and not having a chance to escape into the river.

Q Is that a fair meaning for the word seepage? That is what I want to get at?

Simply what is the meaning we can attach to the word?



I want to find what your  
 notions are? Is that the  
 meaning of the word sipage  
 at all? A water from the sur-  
 face is taken up by the subsoil,  
 absorbed, and runs into or is  
 carried into these vaults.

I Is that the meaning of  
 the word sipage?

A Well, I have not looked up  
 the word for a definition

I But in your use of the  
 word, you mean: all the wa-  
 ter that gathers here in the  
 soil from whatever source it  
 comes? A. Less so

I. Then you don't mean that  
 the water which you call sip-  
 age water comes from the  
 river, percolating through the  
 soil? A Not entirely so.

The higher the river the greater  
 the pressure upon the subsoil.  
 And where it is alluvial it  
 will allow the water to  
 pass.

I Why do you say pressure?

Why do you use the word



Pressure? Do you mean that the water in the river has a lateral pressure, which is felt at half a mile away from the banks, or a quarter of a mile, or at any distance?

A. I think so. I think it would be a fair inference, that, the larger the body of water in the river, the greater the absorption power of the soil.

Q. I am not talking about absorption. We are talking about pressure. A. Give me the question please.

The Court. It is a mere choice of terms. It don't seem to me to be worth while to spend more time over that.

Mr. Belcher. Perhaps not Mr. Hunt. Let him answer the question now it has been asked. Read it to him.

The reporter Read the question before the last and the last question.

A. Yes sir. In the alluvial soil, in proximity



Mr. Belcher That is what you mean when you speak of pressure? That the soil has greater power of absorption?

A Yes sir

Q That is all you meant by the word pressure? A Yes

Q Are the privy vaults connected with the sewers?

A No sir

Q Were they ever? A No sir

Q Is there now, or has there been a prohibition: prohibiting any connecting with them?

Mr. Hart. What is it you want? A City ordinance? We don't care about having the City Ordinance, of course, if it is proved in this case.

I will admit that there has been such a prohibition, if you want the fact.

Mr. Belcher These vaults are not now and never have been connected with the sewers

A The overflow has been connected with the sewers

Q Is it you now if the



Irregular vaults have been connected with the sewer<sup>1</sup>.

A I can modify that answer that I just gave. For solid matter they have not been connected, but for fluid matter they have been connected in some instances.

Q How? A. By a trap, which allowed the fluid contents to escape but not the solid contents.

Q That is, up to a certain level?

A Up to a certain level.

Q Up to what level?

A I need not give you the exact level.

Q Up to 1860 was the material of these closets and vaults kept here so, that they were absorbed by the soil?

A In very early days no pans were taken with the vault system. Up to 1852,

<sup>until</sup> after the flood, there were little pans taken. But after the flood there was an effort made to have a vault



System. Very few of these vaults were then bricked. They were simply dry in the alluvial soil. All the contents of these vaults, at that early day, in my judgment, when impregnated with water, would be taken up by the alluvial soil. And there are vaults in sacramento that have not been cleaned out up to day. There are vaults in sacramento that have not been cleaned out for 25 years. The soil has taken up the material.

I That was the case and is the case largely in this City.

Mr Hart. That is the case now he says.

Witness I mean by that, that it was the case.

Mr Belcher That is from the first building of the vaults. A more pains is taken now than formerly.

I I mean by that, that



There is now less absorption of that material into the soil than there was formerly?

A I mean to say that the vaults are now cleaned out periodically. That is the closed vaults. The contents are carried away.

Q If that be true, is there less absorption into the soil of that deleterious matter than there was formerly?

A The increase of population who still adhere to the same system, has made an increase of that foul material.

Q How is it with the cess-pools? Is there any regular system of them? And do a very considerable portion of the people of this city dump out the waste material of their houses into those pools? A Men mean on the surface? throw on the surface?

Q On the surface, or near it?

A They do not. Unless they act against the law. The



law is against that.

Q I ask you about the  
fents? I don't ask you about  
the law? A. Well, I say  
that they do not.

Q As to the house drainage  
generally - saying that general  
term - with what does it  
connect? A. In the case  
of privies -

Q (Inté) I am not speaking  
of privies now? I am ask-  
ing you in regard to house  
drainage? A Do you mean  
the rain fall?

Mr Catlin Kitchen drainage?

A That goes in most instances  
into the cess-pool. A part  
into the privy perhaps.

Mr Delehan How deep are  
these cess-pools as a rule?

A If they are well constructed  
they are dry during the  
dry season, as deep as the  
builder can go with conve-  
nience.

Q How deep are they usually  
dug? A I should say about



Eight feet.

Q Is that within or below what you call the sub-soil?

A That is within the sub-soil.

Q Then there would be a constant absorption of the material into the sub-soil, could there not?

A If the cess-pool is constructed with open brick work there would.

Q Well, how are they ordinarily constructed? How is it with the great majority? How are a great majority of the cess-pools in this City constructed?

A Most of them are constructed with open brick work.

Q And in regard to that very kind of brick-work: you say there would be a very large absorption into the soil?

A Yes Sir.

Q Then is it not true, Doctor: that the material from these cess-pools is principally absorbed into the soil? A Yes.



2 And has it not been so since the first Establishment of this City? A Yessir

2 Is it not also true, Doctor, that this fact alone would be sufficient in great measure, to account for the change in the Character of diseases here in this City?

A I think that if other conditions had not been present

2 (Intg) Please to answer my question

Mr Hart. He is going on to answer your question.

The Witness If other conditions had not been present to bring these four elements of disease near the surface, I think that the disinfecting power of mother Earth, would have been sufficient to have absorbed this matter, and changed it into innocuous material.

2. Then this material does not go into the soil at all?

A Yessir. But it would have been, I think, absorbed



in a disinfecting way, if other conditions had not been added

Q The Cess-pool matter does not go into the Sewers?

A The overflow from the Cesspools does when they are well constructed, and that overflow is frequently charged with certain portions of sewage matter

Q Now is it a fact, that a number of these connect with the Sewers? Either directly or at all? A The large hotels, for instance, The Western Hotel, that is directly in the rear of my place of business and I am familiar with that particularly

Q That does connect?

A Yes sir. That has a Sewage connection

Q Is it not true that 99/100 of all the Cesspools in this city do not so connect?

A I don't think the proportion is any thing like that.



I state then what the proportion is, in your judgment

A I am not familiar with that subject, Judge. But wherever there is a large body of people together, as in a hotel or stables, or Wells Fargo & Co's building, for instance, they are all connected with the City Sewerage system. —

Then there would be 2 or 3 dozen of these cess-pools in the City that would be connected and all the rest, not? and these 2 or 3 dozen would accommodate a population perhaps of  $\frac{1}{20}$  of the town

I Do you mean to say that the hotels and stables and such buildings altogether, taking those who have residences there along with them, — that they could accommodate  $\frac{1}{20}$  part of the people of this City?

A I think so

I Then it would be  $\frac{1}{20}$  against  $\frac{19}{20}$  in this calculation  
A I would not swear to the



Proportion that is only an opinion, Judge

Q That would be your opinion?  
A I think so

Q And you think that if there was nothing else here of this kind but the privies and the cess-pools, that the earth would take them up and render their contents harmless?  
A If these contents were not brought to the surface

Q But it comes pretty near the surface? The cess-pool matter? does it come pretty near the surface?  
A It does not permeate the whole surface. The surface affected by a privy vault is ordinarily but a few feet. But where there is seepage of water it brings it to the surface. You turn up the soil, and you are liable to come upon elements of disease in consequence of seepage water bringing it up.



Q Does the sewage water  
Carry it off? A That would  
depend on the height of the river.  
And the opportunities for drain-  
age.

Q Where do the sewers of the  
City now drain?

A Into what is known as  
the Drainage Canal.

Q How long has the City drained  
there? A Not all time.  
They have always drained there.  
There is a natural channel  
there.

Q Never been connected with  
any thing else except with that  
canal? A No sir.

Q Is that canal just as deep  
now as it was when it was  
first built?

A It has been improved year  
by year.

Q Is it deeper now?

A I don't think it is any  
deeper; but there has been  
a new dred channel made,  
and the bed has been cleaned  
out and so forth.



Q From what point to what point does that Extend?

A That drainage Canal connects with a system of lakes which lie between the banks of the Sacramento river and the upland, over a half a mile from the river

Q That is the same now that it has always been, only that it is better now than it was in earlier years? A Yes sir.

Q Then the drainage of this City is better now than it was in 1849 and 1850?.

A It is not as good - no sir.

Q This drainage canal is not as effective now as it was then? A No sir.

Q How? A Because the current is slower

Q Because the grade is less?

A Because in my judgment the lakes themselves can not drain into the river as formerly

Q Is the grade or fall of the Canal less? A The fall is the same. But the outflow



is dammed or blocked.

Q The outflow into the lakes  
A The lakes themselves are  
higher perhaps. The lakes themselves  
can not drain into the river  
as formerly

Q Is this prevention of the drain-  
age of the lakes into the river,  
caused by artificial means?  
or is it natural?

A It is prevented by the debris  
blocking the outlets

Q Are there levees that block the  
outlets? do you know about that?

A I am not sufficiently acquaint-  
ed with the levee system to  
give an opinion about that.

Q Then you don't know whether  
the outlets are blocked by nat-  
ural or artificial causes?

A I know of my own person-  
al knowledge & reflecting on.  
Must I state only what I  
know of my own personal  
knowledge

Q You say you don't know enough  
about the levee system to an-  
swer that question?



Q. As to whether the levees would increase the height of the lakes? do you ask me that?

I Yes sir. A These lakes formerly had an outlet. But the outlet in consequence of the rise of the river bed, is not sufficient to drain them. Apart from any levee system.

I Where is that outlet?

A In a direct line, do you mean?

I Whereabouts is it?

A. There is a succession of lakes. Beeches Lake is the only one I am familiar with.

I Does it empty finally into the Sacramento River?

A I don't know whether it empties into the Sacramento or the Mokelumne.

I Have you ever been out there?

A I have; many times. But I have never taken any measurements. I will state here, that my information in regard to the outlet has been given me by Engineers when I have been acting on Committees in regard to



to the drainage of the City of  
Sacramento.

Q And you took their statements?

A Yes sir.

Q Without Examining for yourself?

A Yes sir.

Q Now do you know what was  
the death rate, per thousand, in  
1850? A 1850 was a cholera  
Season

Q I don't ask you what the  
Season was? I would like to  
have you answer my question.

A I don't know the death rate;  
but it was very large.

Q Do you know whether at  
that time the character of the  
disease or diseases that prevail-  
ed here in the summer or fall  
of that year was dependant on  
the condition of the country  
around and particularly the  
low level of this City?

A As to the death rate of 1850,  
I was familiar with all the  
circumstances. Because I was  
here and was associated with  
the physicians here at that time



The death rate was the result of a Cholera Epidemic which was brought here by the early immigration. A contagious disease. And also a Devill State, the death rate is to be considered with respect to the people themselves at that time. A very large proportion had either crossed the plain or come around the Horn. Their systems were very weak. And where they were not subject to the Epidemic influences of cholera or Bowel Complaint, they were easily affected by the change of water, the change of food, the depressing influences of all kinds, incident to early immigration, — such as the absence from home, and the absence of home comforts.

I Can't you answer my question directly? Mr Reporter read the question?

The reporter read the question Mr Belcher Now have you answered that question?

A I tried to do it, Judge



I gave you my opinion as to what caused the death rate.

I I didn't ask you what did cause it. Let the reporter read the question again.

The reporter read.

Mr. Hunt. Now let the reporter read the answer.

The reporter read.

The Com. Have you any other answer to make to that question?

A No sir.

Mr. Delcher That is all the answer you have to make to that question? A Yes sir.

Q Do you know what was the level of the City in the Spring of that year, say during the month of May, with respect to the water in the river?

A I don't know the level.

Q Were you down on the water front? A I was on T Street between Front Street and 2<sup>nd</sup> Street.

Q Were you occasionally down on the water front on the



Sacramento River?

A Certainly, after

Q In the month of May about  
was the difference between the  
street level on the bank there  
and the water?

A I don't not tell you.

Q Were there swamps all a-  
round the city with the ex-  
ception of land to the east of  
here?

A There were  
sloughs running in all directions.

Q Were there swamps?

A There were swamps where there  
are swamps now. Tule swamps.

Q Was that land overflowed  
until late in the year? swamps  
to the west?

A West of the Sacramento river.  
yes. The Sacramento was over-  
flowing to the west. And the  
tule basins were wet for  
some time.

M. Hart. The witness is calling  
tule basins, swamps, as I un-  
derstand him at the request of  
counsel

Q Was there water to the north



A I remember a very large body of fertile, arable land along the American and Sacramento River at that time.

Q North of the American river and on the East or West bank of the Sacramento? A Yes sir.  
Q Is that all that you remember in that connection?

A Those lands were not covered by water at all.

Q Not in the winter of 1849-50?

A Ah! I was not here in 1849, I came here in the summer of 1850.

Q Was there a considerable body of water above the American<sup>2</sup> and coming well down toward the mouth of it? Flooding that country? A I am familiar with that country, north of the American River. I have owned land there. At that time it was fine arable land and had a growth of oaks upon it.

The Court. He asks you about the water in that locality



of which he speaks. Answer  
the questions. Don't talk about  
any thing else. Just answer  
the questions. He asked you  
about coater..



The Court He asked you about water

Mr Belcher Q Is that the question I asked you?

A I saw no water through there in the Summer of 1850

Q Was there water on the streets of this City, R. St and below it and from R Street down? A When I came here in the Summer of 1850 there was no water that I observed particularly. There were various sloughs running through the town many of them were crossed by bridges which were afterwards torn up but I saw no large body of water to impress my mind with the fact of there being an overflow

Q Was there a large population at Placerville at the same time when they had the cholera here?

< Objected to as not cross-examination >



A I was not acquainted with Placerville at that time. I could only give you from hearsay

X Q Were you acquainted in any of the Country ~~down~~<sup>around</sup> here so as to be able to state in regard to it? Were you acquainted at Michigan Bluffs or at Folsom? A Folsom was not in existence then.

Q That was not in existence? And so

Q At Mormon Island?

A I did not leave Sacramento for nearly two years.

Q If there had been any considerable amount of cholera at Placerville or Michigan Bluffs or Negro Bar or elsewhere you would have known it, would you not at that time? A I think so.

Q Well was there? A I am not familiar with that I could not answer that



Q You do not know whether there was or not - did you ever hear of it? Answer if you wish me to make a remark

Mr Hart You need not state what you heard

A This was a central point for all California outside of San Francisco and a great many started from here for the points that you speak of

Mr Belcher Well I will ask you again the question whether or not in your judgment the cholera was not then aggravated by the low position of this City? A Can I ask a question -

Q You mean aggravated - that the cholera could be produced by the low condition

Q Aggravated does not mean produced does it?  
A? That is not your



understanding of the meaning of those words?

A That is what I inquired to find out what you meant by it

Q Would you suppose so - that that should be the meaning of the word?

A You mean increased - aggravated or increased, by the position

Q That is a fair meaning of the word "aggravated" then?

A I think all towns situated at the confluence of rivers - Can I answer in the way that I commenced

Q Yes sir and after you get through I shall want a direct answer to the question but I am willing to hear you now first?

A It has been observed in relation to Cholera that all towns situated at the confluence of rivers have cholera



and epidemic in a worse form than where the situation is high and well-drained, if that is an answer

Q Is that a fair answer to the question which I asked you? A Yes sir

Q <The question is repeated>

A Yes sir

Q That is a square answer - do you know what was the death rate of this City per thousand in 1855 or 1856 - from 1855 to 1860?

A I could not recall it exactly

Q Can you tell it approximately? A I could not

Q Was not the death rate from 1855 to 1860 per thousand very much larger than it has been for the last five years?

A The death rate has been decreasing but there are other causes.

Q We will talk about



causes after we get out the facts. Is it not true that the death rate since 1870 has been very much less than it was from 1850 to 1860? Ayes sir it has been very much less

Q Excluding the Cholera of 1850? Ayes sir

Q And is it not true, doctor, that the death rate per thousand is less now for the last three or five years - take it for five years - than it ever was before in the history of the City?

A I think it has been less

Q Is it not less than half of what it was from 1850 to 1860? A I could not make a comparison I told you

Q That you had not looked at it sufficiently to make the comparison? A No sir



Q Now you started to state the causes of this decrease in the death rate, and if you desire to make that explanation you can do so

A I started to say that the conditions of society and the position that Sacramento occupied as a centre had changed with each year, that in early times we were a centre where large numbers came here to be sick to be taken care of; that as towns had multiplied in other sections, that kind of population has decreased until the town now has become one of houses, and but little of that element

2. Now, you say that it was a center for the sick to congregate in

2. When? A. All the way from 1850, to I should



say 1865

Q. Would you say to 1865?

A. Well, I think that a gradual change has been going on.

Q. Is it not true that the conveniences for taking care of their own sick in the country around you, were quite as good ten years ago as they are now? And that that there were as few people from the country around outside of Sacramento County came here to be sick, as there are to-day?

A. I think each year the people of the far interior have been less inclined to travel to Sacramento, and San Francisco, for sickness than they were formerly. They remain at home with their own physicians.

Q. How many strangers came to this city to be



attended, and died of disease in the year 1860? or can you tell in any of those years?

A. I cannot tell except as my own practice would be interested.

Q. Well there are those who come from abroad now to consult you as a physician, are there not?

A. Yes sir.

Q. And did then?

A. Yes sir.

Q. And as many now as then? A. I do not see as many from abroad as I did in 1860.

Q. You do not mean to say, Doctor, do you, or do you, that those coming from abroad to be attended here from 1860 to 1870 materially increased the death rate per thousand in this city?

A. I do.

Q. How much?



A. I could not tell you how much, I have not made any calculation. It is only an opinion of mine

2. That there were some who came, but how much they increased the death rate per thousand, that you could not answer at all now?

A. I know there were frequently fatal cases that did not belong here, and more frequently than at present

2. But from 1860 to 1870 the death rate was very much larger than it is at present, or rather has been for the last 10 years, from 1860 to 1870, very much larger than it was, from 1870 to 1880?

A. Yes sir, as our town has become settled, and one of homes, our death rate has decreased



2. Was it not pretty well a city of homes prior to 1860? A. I think there were very few prior to 1860, that intended to stay here their whole life, and now it is the usual condition. They looked upon this city as a temporary place.

2. Well, the fact that they looked upon it as a temporary place - were they provided with houses then? A. Not the same character as they are now.

2. Were there not good houses in this city prior to 1860? A. There were.

2. And a great many of them? A. There were.

2. And were not the houses between 1860 and 1870, practically as good as they are or have been between 1870 and 1880?

A. They character of



The houses has been improving more the last 10 years, than at any former period. The old houses were most of that cloth and papered on the cloth. It was exceedingly difficult to get a comfortable house where draughts would not come in

Q. That was the case all through the State, was it? A. Well, I am familiar with Sacramento, and I know that kind of a house now is a very rare thing

Q. And, so far as you know, the rule was the same all over the State as here? A. I am not acquainted with any other place than Sacramento. I have not lived anywhere else

Q. You have been about the country here, have you not, some miles away



from the city? A. I have travelled, yes sir

Q. How did you find it where you travelled?

A. You mean in California?

Q. In California?

A. The road-side houses were mostly of the character that I have mentioned

Q. Have you been connected with any other medical association other than the one in this city?

A. I am a member of the American Medical Association, of the California State Medical Society, of the Massachusetts State Medical Society, and the Sacramento Medical Society

Q. Then, you have had other reports in regard to the health of different portions of the State brought to your attention from



time to time, have you,"  
before these associations?

A. They are not properly  
given to medical societies  
but to the State Board of  
Health

Q. Have you been connect-  
ed with that? A. No sir

Q. You say they are not  
properly, but are they in  
fact given to these societies  
with which you have been  
connected? A. No sir

Q. Were there not more  
deaths from 1850 up to 1860  
per thousand in this city  
due directly to malarial  
causes than there have been  
since 1870? A. Due from  
malarial causes?

Q. Due from malarial  
causes, or from malaria  
from the cause?

A. It is very rare for us  
to have a death from ma-  
laria

Q. (Question repeated)

A. I doubt if the mortality



tables will show any deaths from malaria

Q. Either as a direct or indirect cause?

A. Indirectly - you mean if a person dies of inflammation of the spleen for instance, would you call that indirectly caused by malaria?

Q. I am asking you for the causes, now, and I am not making them myself. A. It is my judgment that malaria has decreased, malaria proper, has decreased the last 10 years, if that will answer

Q. Take all there is, that is due to malarial influence, whether it be direct or indirect has decreased the last 10 years

A. Yes sir

Q. And is very much less now than it was in the 10 years from 1860 to



1870, or the 10 years from 1850 to 1860? A. Yes sir

Q. You have already stated that the general health for the previous 10 years has improved?

A. The death rate has improved

Q. How is it with the general health? A. I have stated already that the character of the fevers has changed, and that there are more deaths from what is known as typho-malaria, than formerly - that the character of the disease has changed

Q. That, I understand, and I ask you the question again, whether the general health, which would include all diseases from 1850 to 1860, and from 1860 to 1870, and from 1870 to 1880 has been constantly improving

A. I misunderstood your



question, if I stated that ~~the~~ it had been improving, the general health, I meant that the amount of death rate, the mortality

Mr Start Well, what is the answer? A. I do not think the general health has been improving

Mr Belcher Is it as good as it was from 1850 to 1860?

A. No sir

2. Not as good? A. No sir

2. Do they have this typho-malaria disease in any other county than Sacramento County?

A. I am not acquainted with any other county, and I cannot answer that question

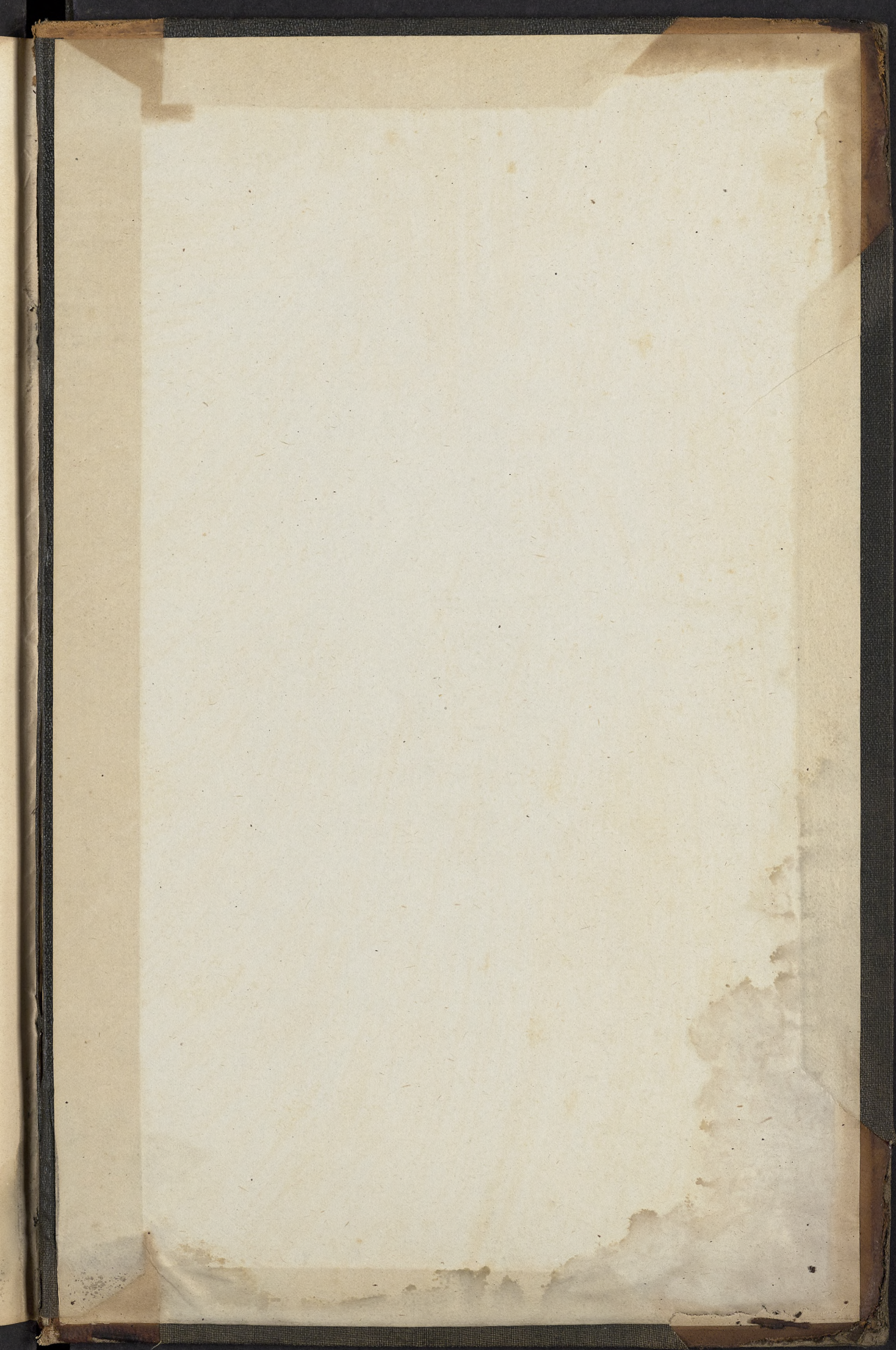
2. Prior to 1860 did you have typhoid or typhus fever here?

A. We had an occasional case of typhoid

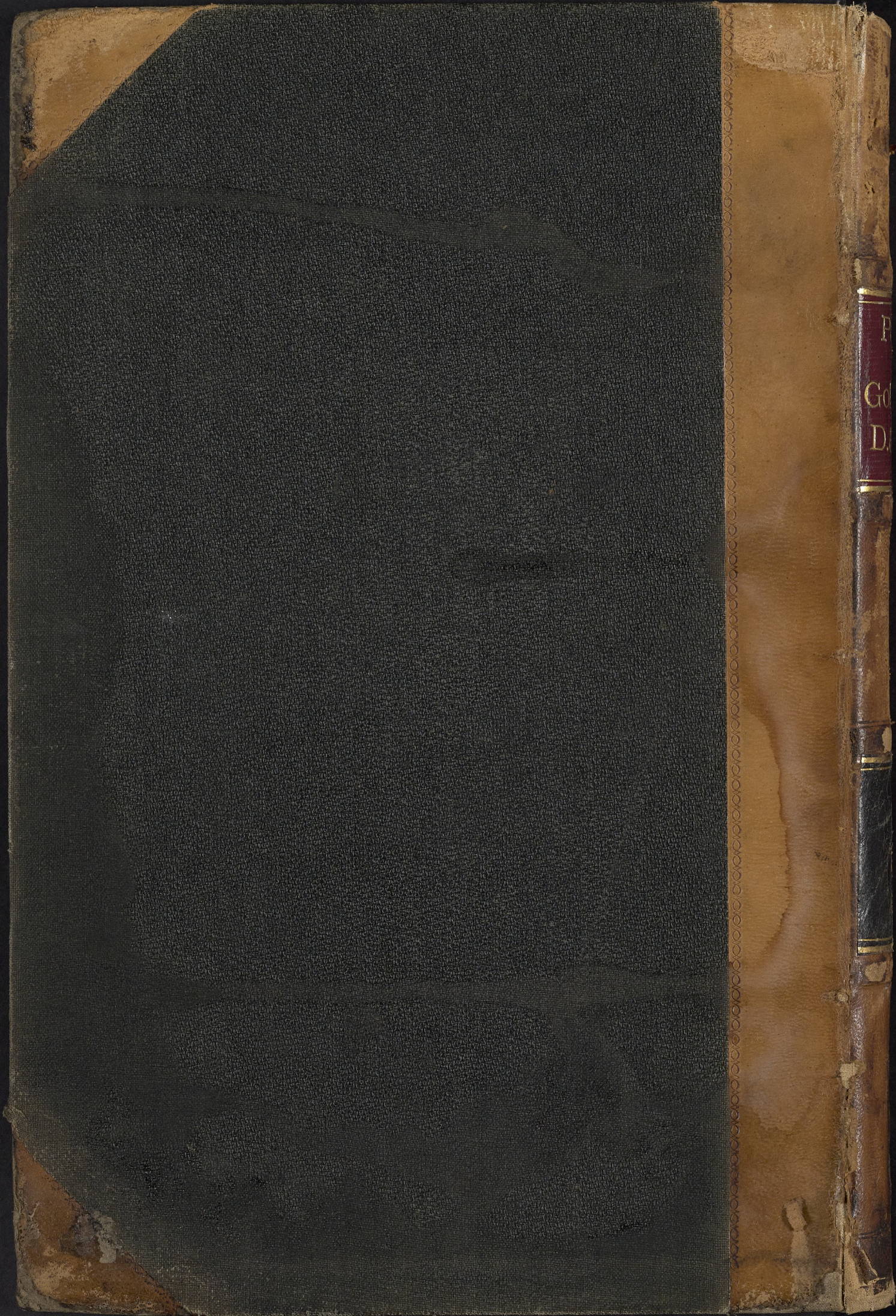
2. Only occasionally? A. That is all.

2. Recess until 2 o'clock









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Go  
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